Poster Session 2: Cervical/Vaginal/Vulvar – Monday, October 16, 2006

0331
THE REGULATION ON SIGNAL TRANSDUCTION PATHWAY OF GAP JUNCTIONAL GENE CONNEXIN43 IN HELA CELL LINE BY ALL-TRANS-RETIINOIC ACID
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Background and Aims: To investigate signal transduction mechanism of gap junctional genes connexin43 in human cervical carcinogenesis.

Methods: Human cervical carcinoma cell line HeLa was cultured and treated by all-trans-retinoic acid (ATRA). Flow cytometer (FCM) was employed to detect expression of Cx43 protein in HeLa. Fluo-3 AM loading and laser scanning confocal microscopy (LSCM) were used to measure concentrations of intracellular calcium ([Ca2+]i) in HeLa cells. Phosphorylation on tyrosine of connexin 43 protein was examined by immunoblot.

Results: Positive rate of Cx43 protein increased from 1.9% in untreated HeLa cells to 26.3% in RA-treated HeLa cells examined by FCM. [Ca2+]i in untreated HeLa cells was 35.73 mmol/L increasing to 58.16 mmol/L in ATRA-treated cells. Immunoblot showed that ATRA-treated HeLa cells had phosphorylated on tyrosine in Cx43 protein whereas untreated cells had not.

Conclusions: Carcinogenesis of human cervical carcinoma related with the abnormal expression of cx43 gene and disorder of signal transduction, such as decrease of [Ca2+]i, post-translation phosphorylation on tyrosine of Cx43 protein. The anti-tumor effect of ATRA in HeLa might be due to up-regulation of cx43 gene and its signal transduction pathway.

0332
COX-2 AND HER-2/NEU REPRESENT MOLECULES FOR TARGETED THERAPY IN MAMMARY AND VULVAR PAGET’S DISEASE
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Background and Aims: Paget disease (PD) of the breast might cause recurrence after breast conserving therapy in breast cancer. The vulva is the most common localisation of extramammary Paget’s disease (EMPD). Both represent uncommon lesions and occur in about 1% of all neoplasms at these sites. Evaluating therapeutic relevant molecules PDs were investigated immunohistochemically.

Methods: 11 mammary PD (MPD) and 8 EMPD were stained with antibodies against estrogen and progesterone receptors, HER-2/neu (Hercept-Test) and COX-2 with semiquantitative evaluation of the staining results.

Results: Two thirds of PD at both sites were negative or showed only weak staining in estrogen and progesterone receptor analysis. 10/11 MPD and 7/8 EMPD represented COX-2 overexpression. All PD of the breast and 6/8 EMPD showed strong immunoreaction for HER-2/neu (Score 3).

Conclusions: PD at the breast and the vulva is probably not under hormonal control of estrogens or progesterogens. The strong overexpression of COX-2 and HER-2/neu suggest that these both molecules represent possible therapeutic targets.

0333
P63 AND IST ROLE IN TUMOR CELL DISSOCIATION AND JUXTATUMORAL STROMAL REMODELLING IN CARCINOMA OF THE CERVIX UTERI
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Background and Aims: p63 (syn. KET and p51) is located at the short arm at chromosome 3 (3q27-29) with tumor suppressive and oncogenic properties. Its overexpression has been reported in carcinomas of the head and neck and the lungs. The present study evaluates p63 expression on carcinoma of the cervix uteri in correlation to tumor-stromal interaction.

Methods: Paraffin embedded tumoral tissue from 140 patients with cervical carcinoma FIGO stage III and IV, treated with radiation therapy, were examined immunohistochemically. Staining results were evaluated using an immunoreactive score (staining intensity (1-3) x percentage of positive stained nuclei). The score values were compared to histologic tumor type, tumor grade, pattern of invasion and grade of juxtatumoral stromal remodelling (i.e. desmoplastic change).

Results: Squamous cell carcinomas showed more often p63-expression than adenocarcinomas (p = 0.001). Poorly differentiated tumors (grade 3) represented a reduced p63 expression (p = 0.001). Carcinomas with high tumor cell dissociation (characterised by spray-like pattern of invasion) and those with strong peritumoral stromal reaction were also associated with a loss of p63-expression (p < 0.02 and p = 0.074). There was no correlation between p63-expression and response to radiation therapy nor to overall survival.

Conclusions: p63 is associated with high tumor cell dissociation and strong remodelling of juxtatumoral stroma in carcinoma of the cervix uteri. But, the mechanism how acts p63 in the context of the alteration of tumor cell adhesion and stromal remodelling is not well understood at time.

0334
PARA-AORTIC INVOLVEMENT IN STAGE IB2/II CERVICAL CARCINOMA CONFINED RADIOLOGICALLY TO THE PELVIC CAVITY TREATED USING PELVIC RADIOTHERAPY AND CONCOMITANT CHEMOTHERAPY
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Background: Pelvic radiation therapy with concomitant chemotherapy (CRT) is the standard treatment of stage IB2/II cervical carcinoma. However, the impact of concomitant chemotherapy on positive para-aortic nodes (PA +) remains unknown. The aim of this study was two-fold: 1. to evaluate the rate of histological PA + after PCRT and 2. to determine the the survival of patients with PA +.

Methods: Patients fulfilling the following inclusion criteria were studied: 1. Stage IB2/II cervical carcinoma 2. Histologic subtype: squamous cell, adenocarcinoma or an adenosquamous tumor 3. Exclusion of patients with radiological PA + (CT scan/MRI) 4. Pelvic external radiation therapy of 45 Gy with concomitant chemotherapy (cisplatin 40 mg/m²/week) + utero-vaginal brachytherapy 5. Complete surgery after the end of CRT including at least a para-aortic lymphadenectomy.

Results: Seventy-three patients (16 stage IB2/57 stage II) treated between 1998 and 2004 fulfilled all inclusion criteria. PA + after CRT was observed in 13 patients (18%) with a median number of 5 (range, 2-22) positive nodes. Overall and disease-free survival at 24 months in patients with PA + was 40% and 17%. Only 2 patients with PA + are currently alive and disease free.
Conclusions: The rate of PA+ remains high after CRT in patients treated for stage IB2/II cervical carcinoma. Furthermore, the survival of patients with PA+ is very poor. These important results suggest that early detection of para-aortic spread before the beginning of radiotherapy should be improved (interest of initial lymphadenectomy or systematic PET imaging) in order to optimize treatment using extended fields to the para-aortic area.

0335
LARGE CELL NEUROENDOCRINE CARCINOMA OF THE UTERINE CERVIX
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We described a case of large cell neuroendocrine carcinoma of cervix with pathological findings and treatment modality.

Case Report: A 53 y/o multiparous woman, presented with post-coital vaginal bleeding for one month. On pelvic examination, a neo-tumor mass was noted beneath the uterus posteriorly, with bilateral pelvic lymph node dissection and paraaortic lymph node sampling was performed thereafter. The final pathological report showed large cell neuroendocrine carcinoma (LCNEC) without lymph node involvement. Pathological findings revealed the tumor cells had abundant granular cytoplasm with medium-to-large vesicular nuclei and prominent nucleoli with diffuse adenoscarcinomatous pattern and immunoreactive for synaptophysin stain. Furthermore, vascular invasion was prominent and numerous mitoses (>10 MF/10HPF) noted in the specimen.

Discussion: Cervical neuroendocrine tumors of non-small cell type are uncommon but distinct from squamous cell carcinoma and adenocarcinoma. LCNECs of the cervix, however, are probably still underrecognized as a specific entity, and some tumors are likely misclassified as poorly differentiated squamous cell carcinoma, adenocarcinoma, or carcinoid tumor. Vascular invasion in LCNECs was much more common than in other types of cervical carcinomas. The optimal therapy of cervical LCNECs remains to be determined because few studies have contained sufficient data to allow for definitive therapeutic recommendations. Recently neoadjuvant or postoperative chemotherapy has been used in an attempt to improve survival of cervical neuroendocrine carcinoma. We offered this case post-operative adjuvant systemic chemotherapy with regimen of cisplatin, vp-16 and cyclophosphamide for 6 cycles. Currently, no evidence of local recurrence occurred.

0336
THE DISTANCE BETWEEN THE URETERS AND THE CERVIX BY COMPUTED TOMOGRAPHY IN WOMEN WITH CERVICAL PATHOLOGY
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Aims: To measure the distance between the ureters and the cervix in patients with cervical pathology, evaluating risk factors for anatomical proximity.

Methods: The distance between the ureters and the cervix was measured in 499 CT studies at the most dorsal reflection of the ureters. Radiological criteria were used to categorize CT scans as normal, as having cervical pathology or other pelvic pathology.

Results: Of the 499 CT studies, 252 had radiographic pathology of which 126 had cervical pathology. The ureter was within 0.5 cm of the cervix in 3.6% of the cases with normal studies and in 10.3% of the patients with cervical pathology. Overall, the right ureter was significantly closer to the cervix than the one on the left (2.0 ± 0.8 cm vs. 2.2 ± 1.0 cm; p < 0.05, respectively). In cases were the pathology was limited to the cervix the right ureter was farther than the left (2.0 ± 0.6 cm vs. 1.7 ± 0.6 cm; p < 0.05, respectively). Correlation studies demonstrated an inverse relationship between distance of the ureters from the cervix and fat thickness (r = 0.10, p = 0.02), and direct relationship to the distance between the medial borders of the acetabular roof (r = 0.092, p = 0.004). Age did not correlate with the distance of the ureters from the cervix (r = 0.002, p = N.S).

Conclusions: Approximately 10% of patients with cervical pathology can be expected to have a ureter with proximity of less than 0.5 cm to the cervix. In such patients preoperative measurement of cervical ureteric distance and intra-operative measures which protect the ureter and ascertain its integrity may be invaluable.

0337
CONSERVATIVE SURGERY APPROACH TO THE YOUNG PATIENTS WITH EARLY INVASIVE CERVICAL CANCER: ABDOMINAL RADICAL TRACHELECTOMY
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Background: In Serbia and Montenegro the incidence rate of cervical cancer is very high, 27.4 per 100,000. More cases of invasive cervical cancer are appearing in young people with a peak incidence of invasive cancer at 35-40 years. In recent years fertility sparing radical procedures has been introduced for young patients with early invasive cervical cancer, but with very strict inclusion criteria.

Materials and Methods: At the Institute of oncology Sremska Kamena abdominal radical trachelectomy with pelvic lymphadenectomy were performed in 6 patients with early invasive cervical cancer from October 2002 – February 2006. Patients average age was 31.6 (27-35 years old). All patients were followed-up every two months.

In one patient, 27 months after operation, pregnancy was diagnosed. It was ended which in 6th gestation week by spontaneous abortion. The recurrent disease was not diagnosed in any patient.

Discussion: For those patients with early stage of invasive disease, radical trachelectomy is offered as a surgical procedure that preserves the functions of the uterus. This type of operation is a conservative but locally radical procedure. There are different surgery approaches for this type of operation which are abdominal and vaginal with laparoscopic lymphadenectomy.

Conclusion: Nowadays, surgery procedure with preserving fertility in young patients with early invasive cervical cancer is acceptable in many medical centres.

Abdominal trachelectomy is recommended as a first technical approach in medical centers that performed standard radical operations without to much experience in laparoscopic approach.

0338
PROTEIN EXPRESSION PATTERNS OF CERVICAL CANCERS CHARACTERIZED BY PROTEOMIC ANALYSIS
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Background & Aims: The purpose of this study is to identify the expression profiles of proteins in human cervical cancers, as compared with those seen in normal cervical tissues, by using proteomic analysis.

Methods: Three cervical cancer tissues were obtained from surgical specimens and three normal tissues were also obtained during uterine myoma surgery. We performed two-dimensional electrophoresis in order to separate tissue proteins by molecular weight,
and then compared protein expression patterns. 20 up-regulated spots were identified by matrix-assisted laser desorption/ionization time of flight (MALDI-TOF) in cervical cancers. Then, the expression of some of the up-regulated proteins was evaluated via RT-PCR, immunostaining and Western blotting in both the cervical cancer tissues and the normal cervical tissues.

**Results:** Proteomic analysis revealed about 100 or more up-regulated spots in cervical cancer tissues, of which 20 were selected and identified by MALDI-TOF. 13 proteins were not matched and 7 proteins were matched to AIF-1, Alp2, B-FABP, NCK-I, ICA69, PRSS1, and CDK4. The up-regulation of these proteins was also evaluated at the mRNA level via RT-PCR, which revealed that AIF-1, B-FABP and PRSS1 were distinctly up-regulated in the cancer tissues. Candidate proteins (B-FABP, NCK1, CDK4) related to the pathogenesis of cervical cancer could be confirmed by immunostaining & Western blotting.

**Conclusion:** This proteomic analysis may constitute a powerful tool for the identification and characterization of many promising candidate proteins related to cervical cancers.

0339  
**AN IMPROVED QUANTITATIVE DETECTION OF TELOMERASE ACTIVITY IN CERVICAL AND ENDOMETRIAL CARCINOMA**  
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**Background and Aims:** Telomerase is a ribonucleoprotein complex that adds hexameric TTAGGG repeats to the ends of chromosomes in order to prevent their shortening. Telomerase activity has been evaluated for its diagnostic and prognostic value since it is observed in most malignancies but not in most normal somatic tissues.

**Methods:** In this study telomerase activity was examined in cancer specimens of cervix, endometrium and their non-cancerous normal counterparts by an improved telomeric repeat amplification protocol (TRAP) – silver staining assay. Appearance of characteristic TRAP leader with 6 base pair increments indicates a positive result and was observed in all cancerous and most of the non-cancerous lesions. Telomerase activities of carcinoma tissues and normal counterparts were compared by densitometrical analysis.

**Results:** Significantly higher telomerase activity was observed in cervical carcinoma samples compared to normal adjacent tissue. No significant difference was observed between endometrium carcinomas and normal endometrium. High telomerase activity in normal endometrium of patients restricts the use of assay for detection of carcinogenesis in this tissue.

**Conclusion:** However, detection of carcinogenesis may be feasible in cervix with accurate quantification of telomerase activity by TRAP – silver stain assay.

0340  
**THE CHANGE OF TREND ON SURGICAL TREATMENT OF CIN3**  
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**Background:** To know the ratio of hysterectomies and cones for the treatment of CIN 3 in Incheon and Bucheon area, and to know the trend of changes of treatments according to the year operated and age of patients.

**Methods:** From Jan. of 1996 to Mar. of 2005, clinical information was reviewed for the patients with CIN3 at 5 hospitals, which were members of Gynecologic Oncology Study Group in Incheon and Bucheon area.

**Results:** Among 1428 patients with CIN 3, 808 patients underwent hysterectomies and 620 underwent cone (57% vs. 43%). Before 2000, almost 10-30% of patients selected cones for themselves. After 2003, however, 70% have selected cones. And younger patients prefer cones and older patients prefer hysterectomies. 60% of patients of their 4th decades have selected hysterectomies and remainders have selected cones for their CIN3 treatments.

**Conclusion:** In Incheon and Bucheon area, hysterectomies have been performed slightly more than conization of cervix for the patients with CIN3. After 2003, however, about 70% of patients with CIN3 have been treated by cone. As patients get old, they get to prefer hysterectomy.

0341  
**INCREASED EXPRESSIONS OF CLAUDIN-1 AND -7 IN CIN AND CERVIX CANCER**  
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**Background and Aims:** The change of claudin expressions, integral transmembrane proteins for tight junction, might be related to progression of cervical premalignancy or malignancy. The aim of this study was to verify the tendency of expressions of claudin-1 and -7 according to the progression of cervical pathology of uterus.

**Methods:** There were 162 tissues obtained at AA institute. 25 tissues were normal, 26 were cervical intraepithelial neoplasia (CIN) 1, 30 were CIN2, 44 were CIN3, 25 were microinvasive cervical carcinomas, and 12 were invasive squamous cervical carcinomas (ISC). H&E and immunohistochemical staining were done.

**Results:** Among normal tissues, 52% showed no expression, 48% weak expressions at claudin-1, and 28% no expression, 56% weak expressions at claudin-7. Among CIN3, 20% showed weak expressions, 41% showed moderate expressions at claudin-1, and 14% weak expressions at claudin-7. Among CIN3, 20% showed weak expressions, 41% showed moderate expressions at claudin-1, and 14% weak expressions at claudin-7. Among CIN3, 20% showed weak expressions, 41% showed moderate expressions at claudin-1, and 14% weak expressions at claudin-7. Among these data shows the increasing tendency of claudin-1 and claudin-7 expressions according to the severity of lesions (p < 0.01).

**Conclusion:** The expressions of claudin-1 and claudin-7 were increased more according to the progression of cervical lesions.

0342  
**METHYLATION OF P16INK4A IN CERVICAL INTRAEPITHELIAL NEOPLASIA**  
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The cell cycle inhibitor, p16INK4a may be a useful surrogate biomarker of cervical intraepithelial neoplasia (CIN). Our goal was to identify the methylation frequency of p16INK4a in each step of CIN that is associated with HPV infection, using several different detection methods of p16INK4a methylation to correlate the data. The present study included a total of 43 patients, including 38 with CIN, and 5 normal patients. Three different methods were used to detect hypermethylation of CpG islands (CPI), methylation-specific PCR (MSP) amplification of different primer sets of M1, M2 and M3, pyrosequencing of each forward primer region, and immunohistochemistry (IHC) of p16INK4a.

Analysis of MSP showed that 20 of the 38 CIN patients (52.6%) revealed hypermethylation in at least one primer set of the p16INK4a promoter. A complete loss of p16INK4a protein expression...
was observed in 11 cases (28.9%). There was no observed association of methylation of the p16INK4a gene with either CIN grading (P = 0.0698) or HPV status (P = 0.2811); specifically 42.9% (3/7) was found in CIN 1, 57.1% (8/14) in CIN 2 and 52.9% (9/17) in CIN 3. In concordance with IHC results, hypermethylation of the p16INK4a promoter was significantly correlated with a lack of p16 protein expression (P = 0.0145). All positive peaks from pyrosequencing matched the MSP results, which ranged from 6.3% to 24.5%.

In conclusion, p16INK4a gene silencing during CIN was not determined to be a particularly rare event, however, it does not correlate with either HPV status or CIN grading.

0343
NEUROENDOCRINE SMALL-CELL CERVIX CARCINOMA: RETROSPECTIVE ANALYSIS OF OUTCOME AND PATTERNS OF FAILURE. TWENTY YEAR EXPERIENCE FROM FOUR INSTITUTIONS
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Background and Aims: Correlate clinical, pathologic, and treatment factors with outcome in patients with small-cell cervix carcinoma (SmCCC).

Methods: Cancer registries were queried to identify patients evaluated, treated, and/or followed at four institutions from 1985-2005. Patient, tumor, and treatment variables were analyzed for correlation with loco-regional (LR) control and survival.

Results: Thirty-seven patients with neuroendocrine SmCCC were identified, of whom 21 were treated with curative intent (79% FIGO IA-IIA). Patients were treated with resection + radiotherapy (RT) + chemotherapy (n = 6), resection + chemo (6), RT alone (5), resection alone (2), or chemo/RT (2).

Median survival was 29 months with 5-year overall survival of 39%. Eight patients are without evidence of disease and 13 have died (6 LR + distant failure, 3 LR, 2 distant, 1 other cause, 1 unknown). Overall survival at 2y and 5y by treatment group were: resection + chemo + RT (67%, 40%), RT + /-chemo (57%, 57%), resection + /-chemo (57%, 17%). All four RT + /-chemo patients who did not progress on treatment survived >10y.

Univariate analysis found correlation between age >40y and loco-regional control (P = 0.042); however, this did not result in survival benefit. Improved survival was correlated with intracavitary brachytherapy (P = 0.067) and RT + /-chemo (vs surgery + /-chemo, P = 0.071). Hysterectomy, external beam radiotherapy alone, chemotherapy, FIGO stage, and tumor size were not correlated with survival or LR control. LR control was not correlated with survival.

Conclusions: SmCCC is a rare and aggressive malignancy with a poor prognosis even when diagnosed at an early clinical stage. External beam radiotherapy plus intracavitary brachytherapy plus chemotherapy without resection can provide long-term survival.

0345
INCREASED EXPRESSION LEVEL OF SQUAMOUS CELL CARCINOMA ANTIGEN 2 AND 1 RATIO IS ASSOCIATED WITH POOR PROGNOSIS IN EARLY-STAGE UTERINE CERVICAL CANCER
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Squamous cell carcinoma antigen (SCCA) is a tumor marker for patients with squamous cell carcinoma of the cervix, lung and esophagus. It was encoded by two highly homologous genes, SCCA1 and SCCA2. However, the relevance of SCCA genes to squamous cell carcinogenesis and patient outcome remains far from clear. In this study, by using laser microdissection and real-time quantitative PCR procedures, the mRNA expression of the SCCA1 and SCCA2 genes in normal, dysplastic and malignant squamous epithelia from uterine cervical tissues were analyzed, and correlated with outcome of cancer patients. We found that the SCCA2/A1 mRNA ratios were progressively increased from normal, dysplastic, to cancer cells, and the mean ratio was significantly higher in cancer tissues than that in normal epithelium (p = 0.02). The SCCA2/A1 mRNA ratios were not significantly associated with types of HPV infection (p >0.05). High SCCA2/SCCA1 mRNA ratios (ratio >1) was an independent predictor of disease recurrence (relative risk: 3.58; p = 0.003). Of the 38 patients with cervical cancer, 12 patients with high SCCA2/SCCA1 mRNA ratios had a significant lower 2-year DFS of only 50% while it was 92% in those with low SCCA2/SCCA1 mRNA ratios (p < 0.001). In conclusion, our study indicated that the ratios of SCC A2 to SCC A1 RNA were increased during the process of cervical carcinogenesis, and patients with elevated SCCA2/A1 ratio carried a higher risk for recurrence in early-stage uterine cervical cancer.

0344
STRUMA OVARI: ANALYSIS OF A SERIES OF 9 CASES AND REVIEW OF THE LITERATURE
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CLINICAL IMPACT OF INTEGRATED PET/CT ON THE MANAGEMENT OF SUSPECTED CERVICAL CANCER RECURRENCE
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Background and Aims: The goal of current study was to assess the value and clinical impact of integrated PET/CT using 18F-FDG in the diagnosis and management of women with suspected cervical cancer recurrence.

Methods: Fifty-two patients with cervical cancer with suspected recurrence because of clinical, cytological, biochemical and radiological findings were retrospectively evaluated. A final diagnosis of recurrence was confirmed by histologic tissue biopsy or by further clinical or radiological evidence. The clinical impact of information provided by PET/CT on patient management was assessed.

Results: Twenty-eight of 32 positive PET/CT scans (87.5%) were proven to have recurrent disease. Seventeen of 20 negative PET/CT scans (85.0%) had no evidence of disease. The sensitivity, specificity, and accuracy of PET/CT for detecting recurrence were 90.3%, 81.0%, and 86.5% respectively. PET/CT changed the management of 11 patients (21.2%) by changing treatment plan (6 patients), by initiating unexplained treatment strategy (4 patients), or by obviating the need for planned diagnostic procedures (3 patients). Median follow-up after PET/CT and last follow-up was 9 (range: 1–24) months, and the 2-year disease-free survival rate of patients with negative PET/CT scan for recurrence was significantly better than that of patients with positive PET/CT (85.0% vs. 10.9%, P = 0002).

Conclusions: In patients with a suspected recurrence of cervical cancer, integrated PET/CT using 18F-FDG provides good anatomic and functional localization of suspicious lesions. The better diagnostic interpretation has an impact not only on clinical management and treatment planning of patients, but also on disease-free survival.

Cyclo-oxygenase-2 expression in cervical intraepithelial neoplasia III and squamous cell cervical carcinoma, and its correlation with clinico-pathological variables
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Objective: To compare cyclo-oxygenase-2 (COX-2) expression in cervical intraepithelial neoplasia III (CIN III) and squamous cell carcinoma (SCC) of the cervix, and its correlation with clinicopathological factors of SCC.

Patients and Methods: This study included 25 patients with CIN III and 67 patients with stage I-IIa SCC. All patients in the SCC group were treated with radical hysterectomy plus pelvic-paraaortic lymphadenectomy. Immunohistochemical analysis was performed on paraffin-embedded sections with COX-2 antibody.

Results: COX-2 expression in the SCC group was significantly higher than in the CIN III group (55.2% [37/67] vs. 24% [6/25]; p = 0.008). Significantly higher expression of COX-2 was observed in patients with lymphovascular space invasion (LVS1) compared to patients without LVS1 (61.9% [34/55] vs. 33.3% [3/9]; p = 0.02). Additionally, patients with tumor sizes > 4 cm had significantly higher COX-2 expression than patients with tumor sizes < 4 cm (65.9% [27/41] vs. 39% [10/26] p = 0.028). There was no significant relationship with respect to COX-2 expression and parametrial involvement, lymph node metastasis, recurrences, and survival. In multivariate analysis, LVS1 was the only statistically significant determinant for COX-2 expression (p = 0.024; OR: 2.35; 95% CI:1.1-4.9).

Conclusion: COX-2 expression may have a role in the development and progression of CIN III and it is related to some clinicopathological variables of cervical carcinoma. Further studies are needed to clarify the role of COX-2 inhibitors in the management of CIN and SCC.

Phase I dose escalation trial of HPV16/18 E7-pulsed dendritic cell vaccination in stage IB-IIA cervical cancer patients
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Background: To determine whether HPV16/18 full length E7 antigen-pulsed mature monocyte-derived autologous dendritic cell (DC) vaccination can generate or boost an anti-E7 immune response in patients with stage IB or IIA cervical cancer.

Methods: Autologous DCs (5 × 106 to 15 × 106 cells/injection) were pulsed with recombinant HPV16 or 18 E7 oncoproteins and keyhole limpet hemocyanin (KLH, an immunological tracer molecule) and administered to 10 cervical cancer patients through multiple subcutaneous anterior thighs injections. A total of 5 vaccinations were administered to each patient. Safety, toxicity, delayed type hypersensitivity reaction (DTH) and induction of serological and cellular immunity against HPV16/18 E7 and KLH were monitored.

Results: No patient was immunocompromised as assessed by DTH with a panel of recall antigens. The vaccine was well-tolerated in all patients and no local or systemic side effects or toxicity were recorded. Specific humoral and cellular CD4+ T cell responses to the E7 vaccine were detected in 10/10 patients as detected by ELISA and by IFN-gamma ELISPOT assays, respectively. All patients increased the number of E7-specific IFN-gamma secreting CD8+ T cells after vaccination. Swelling and induration (i.e., positive DTH response) to the intradermal injection of HPV E7 oncoprotein and KLH was detected in all patients after vaccinations.

Conclusion: Autologous DC pulsed with HPV16/18 E7 proteins can induce systemic B and T cell responses in early stage cervical cancer patients. Phase II DC-based vaccination trials in cervical cancer patients harboring limited amount of tumor cells and/or at significant risk for tumor recurrence are warranted.

Concurrent chemotherapy and adjuvant extended field irradiation after radical surgery for cervical cancer patients with lymph node metastasis
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Background and Aims: This study was to determine the progression-free survival (PFS), overall survival (OS) and distribution of recurrent sites in patients with concurrent chemotherapy and adjuvant extended field irradiation after radical surgery for lymph node metastasis from cervical carcinoma.

Methods: From Jan. 2000 to Jun. 2004, 28 patients with FIGO stage Ib-IIb cervical carcinoma who underwent radical hysterectomy and pelvic and/or paraaortic lymphadenectomy and histologically confirmed to be paraaortic node or common iliac node or multiple pelvic lymph nodes involvement were analyzed. These patients received the first cycle of systemic chemotherapy two weeks after radical surgery. Then they received external-beam extended field irradiation (40–45 Gy) plus weekly DDP (30mg/m2) chemotherapy.
After completion of radiotherapy they were administered 5 cycles of systemic chemotherapy. Survival curves were generated by Kaplan-Meier method. The differences in survival were compared with Log-rank test.

**Results:** The 3-year PFS and OS were 60 % and 72%, respectively. The PFS with pelvic node metastasis, common iliac node metastasis and para-aortic node metastasis were 69%, 61% and 33%, respectively ($P < 0.05$). The pelvic recurrent rate was 7.1% (2/28). The distant metastases rate was 35.7% (10/28). The distant metastasis sites were lung (3), bone (3), liver (2), subclavicular (2), inguinal lymph node (1) and thoracic wall (1). Nineteen (67.9%) patients had grade 1-2 neutropenia. However, only 4 patients (14.3%) had grade 3-4 neutropenia.

**Conclusions:** Concurrent chemotherapy and adjuvant extended field irradiation after radical surgery were successfully used to achieve good local control with acceptable toxicity. However, distant metastatic rate was still very high even after systemic chemotherapy.

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**VULVAR AND VAGINAL CANCERS IN FLANDERS. DATA FROM THE FLEMISH SOCIETY OF GYNAECOLOGIC ONCOLOGY**

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**Aims:** to review the clinical and pathological aspects regarding vulvar and vaginal cancer in Flanders between 1998-2002.

**Materials & Methods:** The data were collected from the registry of the Flemish working party on gynaecologic oncology.

**Results:** During this period 198 vulvar and 37 vaginal tumours were reported representing respectively 6% and 1% of all registered gynaecologic malignancies.

Regarding vulvar cancer, squamous cell cancer was the most frequent histological type (76.6%) and 46% of the tumors were grade 1. About 76% of the tumors were laterally located while 24% were located at the midline. Stage Ia represented 30% while stages Ib and II represented 50%. Of stage I-II, 85% underwent a conservative surgery at the vulva. Inguinal Lymphadenectomy was correctly not performed in 95% with stage Ia. However lymphadenectomy was not performed in 31% with stage Ib-II. This represents serious under-treatment. Many of these patients harbour an inguinal metastases and inguinal recurrence is a fatal incident.

Regarding vaginal cancer, squamous cell cancer was most frequent histological subtype (70%), followed by adenocarcinoma (13.5%) and melanoma (8%). About 43% of tumours were located in the upper 1/3 and 46% presented with stage I or II.

Primary surgery was performed in 75% with stage I and 60% with stage II. Management of more advanced stages has also been inconsistent.

**Conclusion:** Centralization and standardization of surgical treatment of vulvar and vaginal cancers are recommended in order to avoid under-treatment. Inguinal lymphadenectomy is an essential part in the surgical management of invasive vulvar cancer stage I-II.

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**CERVICAL CARCINOMA: OUR INSTITUTIONAL EXPERIENCE**

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**Background and Aims:** Cervical carcinoma is the commonest malignancy in Indian women and majority of them present in advanced stages. Concurrent chemoradiotherapy, which is emerging as the new standard of care, is increasingly being used in such patients. The aim of our study is to study results of concurrent chemoradiotherapy in patients with cervical carcinoma at our institute.

**Methods:** All patients with cervical carcinoma, FIGO stage IB2-IVA were treated with concurrent chemoradiotherapy. Patients with age more than 70 years, deranged kidney function tests and bilateral hydrenephrosis were excluded. Treatment consisted of external beam radiation therapy (EBRT) to whole pelvis with a dose of 50 Gy in 27 fractions over 5.5 weeks (last 10 Gy with midline shield) followed by intracavitary radiotherapy (30 Gy to Point A by LDR or 3 fractions of weekly 7 Gy by HDR). Cisplatin 50 mg was used every week concurrently with EBRT.

**Results:** A total of 119 patients were treated over a period of 2 years. Age ranged from 25 to 67 years (median 52). Majority (66 patients) had stage IIIB disease. A total of 458 cycles of chemotherapy was used with median of 5 cycles per patient. Acute hematological and GI toxicity was observed in 15 and 11 patients respectively. Pelvic disease control was observed in 54 patients and overall survival at 18 months was 45%.

**Conclusion:** Concurrent chemoradiotherapy is a tolerable treatment in our setup, for patients with cervical carcinoma and results in effective disease control and survival.

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**EFFICACY OF CISPLATIN IN EARLY STAGE CERVICAL CANCER WITH LONG WAITING PERIOD FOR SURGERY**

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**Abstracts**

**CIS-PLATIN BASED CONCURRENT CHEMORADIATION (CHRT) COMPARED TO RADIOTHERAPY (RT) IN LOCALLY ADVANCED CERVICAL CARCINOMA (LACC). A SINGLE INSTITUTIONAL CASE-CONTROL STUDY**


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**Background and Aims:** In 1999 a NCI announcement stated CHRT as the standard treatment of LACC instead of RT. Nevertheless, several authors have questioned this statement. We report the results of our experience.

**Material and Methods:** We retrospectively selected patients with LACC stages (S) IIA> 4 cm-IIIb contemporaneously treated with RT or CHRT matched by stage, perfomance status, negative CT scan for retroperitoneal nodes, dose of RT and minimum follow-up time. Response rate (R), local control (LC), toxicity, progression free survival (PFS) and survival (SV) were compared between both groups.

**Results:** 134 patients in the RT group and 136 in the CHRT group were selected. Group main characteristics were comparable. The R was significantly higher in the CHRT group than in the RT group for stage II (P < 0.01) but not for stage III (P = 0.1). The LC was significantly higher in the CHRT group than in the RT group for both stages (P < 0.01 and P < 0.001 respectively). Stage II three years PFS and SV were 67.3% and 85% respectively in the CHRT group vs. 52.6% and 61.3% in the RT group (P = 0.02 and P < 0.01). Stage III three years PFS and SV were 52.9% and 57.4% respectively in the CHRT group vs. 29.4% and 31.2% in the RT group (P < 0.01 and P = 0.04). Toxicity was mild though three times higher in the CHRT group.

**Conclusions:** Cisplatin based CHRT significantly improves the results of RT in LACC.
Background: Due to the large number of early stage cervical cancer patients and the limitation of the operative room, the surgical schedule in our institute was usually longer than 3 weeks. Cisplatin is found to be effective in treatment cervical cancer and has limiting hematologic toxicity. It was used in this study with the aim to control the tumor volume while waiting for surgery.

Aim: To evaluate the efficacy and safety of cisplatin in this setting.

Methods: Between June 2004 and July 2005, cervical cancer patients with stage IB-IIA whose schedule for radical surgery was longer than 3 weeks were recruited to enter the study. 75 mg/m2 of cisplatin was administered for 1-2 courses. Cervical tumor volume was measured 1 day before chemotherapy and 1 day before the operation by using 3-Dimensional ultrasound.

Results: There were 42 patients in the study period. Reduction of cervical tumor volume was noted in 76.2%. The clinical stage, gross appearance of tumor, histology and number of chemotherapy course did not significantly affect chemoresponsiveness. The incidence of lymph node metastases was 16.3%. One patient experienced severe vomiting which could be controlled by ondansetron antemetic. No severe hematologic and other non-hematologic toxicities were identified.

Conclusion: Cisplatin is effective and safety to administer as preoperative setting in early stage cervical cancer patients whose surgical schedule is delayed more than 3 weeks.

0354

RADICAL HISTERECTOMY AND PRONOSTIC SIGNIFICANCE IN PRIMARY & POSTRADIATED PATIENTS WITH EARLY INVASIVE CERVICAL CANCER STAGE IB-IIA

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Objectives: Radical surgery or Radiotherapy has been quite effective for stage IB-IIA Cervical cancer. This study investigated to study the prognostic significance of age at diagnosis, stage, tumor subtypes, pelvic lymphnode metastasis[PLNM], lymphovascular involvement[LVSI], absence or presence of deep cervical stroma[CSI] in relation to primary & preredated patients who underwent Radical hysterectomy + pelviclymphadenectomy (RH + PLND) treatment outcome in early invasive Cervical cancer stage IB-IIA.

Patients & Methods: Between January 1990 & December 2005, Fivehundred one patients treated with RH + PLND records were evaluated retrospectively. All these patients were staged according to FIGO guidelines. Primary radical hysterectomy was performed in 360 patients & 181 patients received external pelvic radiation40-50Gy/20-25 fractions prior to radical hysterectomy for bulky/barrel shape dendophytic Cervical Cancer. The prognostic significance between these two groups were analysed by SPSS database.

Results: The mean age at diagnosis was 42.8years. Tumorvolume (83.61%), PLNM (16.38%), CSI (48.12%) & LVSI (3.71%) were found to be significant prognosticators individually. After multivariate analysis, tumor subtype & PLNM were found to be independent prognosticator for survival. The presence of LVSI appeared to be directly related to the presence of tumor volume(>4cm-92.85% ), CSI was stastically related to the FIGO Stage, LVSI, PLNM & also prior radiation.

Conclusions: TumorVolume, PLNM are two most important prognosticators for Stage IB-IIA. The patients who received prior radition to radical hysterectomy has less PLNM, LVSI when compared to patients with primary radical hysterectomy.

0355

DOES LYMPHOVASCULAR SPACE INVASION (LSVI) CORRELATE SIGNIFICANTLY WITH THE RISK OF NODAL METASTASIS IN WOMEN WITH EARLY STAGE CERVICAL CANCER?

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Objective: The depth of invasion and lymph node metastasis are known to be significant prognostic factors in cervical cancer. To determine lymphovascular space invasion (LSVI) correlates with nodal metastasis in stage IA cervical cancer.

Methods: We reviewed the medical records of 602 patients undergoing conization at Inha University Hospital from July 1996 to Jan, 2006.

Results: 62 patients (10.3%) were stage IA cervical cancer, among them 58 (9.6%) were IA1 and 4 (0.7%) were IA2. LVSI is reported in only 51 (8.5%) of 629 patients, in which 35 (56.5%) was IA1. 6(9.6%) patients of IA1 and 1 (1.6%) patient were LVSI positive. The pelvic lymph node dissection was done in only 1 case in IA1, in which nodal metastasis was noted in 1 patient with IA1.

Summary: We should request the pathologist to describe LVSI on the pathologic report of conization. Even if statistically insignificant, radical hysterectomy and pelvic lymph node dissection is needed when LVSI is present in stage IA cervical cancer.

0356

A PHASE III STUDY OF CONCURRENT CHEMORADIATION (CCRT) WITH IRINOTECAN FOR UTERINE CANCER

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Background and Aim: In five randomized trial which supported the priority of CCRT for bulky cervical cancer the key agent might have been cisplatin. It is also reported that the irinotecan has the synergistic effect with irradiation. Irinotecan has been used for cervical cancer in Japan and its response rates were reported as 9.1% to 29.3%. Thus, irinotecan seems to become one of the candidate in CCRT, as well. This study was conducted to assess the maximum tolerated dose (MTD) of weekly irinotecan therapy in concurrent radiotherapy setting for patients with bulky/localy advanced or recurrent cervical/corpus cancer including adenocarcinoma.

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CHEMORADIATION: A POPULATION BASED STUDY TREATMENT OF ADVANCED CERVICAL CANCER

Methods: Eligible patients (pts) were histologically defined locally advanced or recurrent cervical/corpus cancer (including adenocarcinoma component) with measurable disease. The starting dose level was 30mg/m² given weekly for 4 weeks. Subsequently, dose escalation was done in 10 mg/m² increments to 60 mg/m². The range of radiation was 45Gy (25 fractions of 1.8Gy, whole pelvis or paraaortic lesion) with/without brachytherapy.

Results: The MTD has not been reached. As for toxicities, the hematologic toxicities were tolerable. Non-hematologic adverse events such as diarrhea, vomiting, and abdominal pain were identified as grade 3 at worst in one patient. The diarrhea was recovered within 1 week delay using loperamide and herbal medicine, hange-shyashintou. The response rate was 71 % (7CR + 4PR/14, 3SD). Distant metastases were found in 18%(2/14) of the pts.

Conclusions: Although the MTD has not been reached, this combination therapy was feasible at dose level 3 and might be effective.

ADEQUACY OF CERVICAL PUNCH BIOPSY IN THE DIAGNOSIS OF CERVICAL CANCER

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Background: Cancer of the cervix uteri is the second leading cause of death in reproductive age women in developing countries. Its early detection and management can reduce the attendant mortality.

Aim: To determine the adequacy of cervical punch biopsy technique in the diagnosis of cervical cancer.

Method: A consecutive five year clinicopathological analysis of two hundred and fourteen cervical punch biopsies in the department of Pathology, Ahmadu Bello University Teaching Hospital, Zaria from January 2000 to December 2005.

Results: Two hundred and fourteen (214) cervical biopsy biopsies were analysed. The age range of the patients was 22 to 85 years, with a median age of 46 years and a mean age of 46.8 years. Out of the 214 biopsies, histological diagnosis was made in 190 (88.8%) cases. The spectrum of diagnosis made was categorized into malignant 164 (76.6%), dysplasias 10 (4.7%), chronic cervicitis 9 (4.2%) and others 7 (3.3%) including nabothian cysts, leiomyoma and a case of tuberculosis. The malignant lesions comprised predominantly squamous cell carcinoma 153 (71.5%) with the large cell keratinizing histologic subtype accounting for 144 (99.1%), Adenocarcinoma 52.3%, Adenosquamous 4 (1.9%) Leiomyosarcoma 10 (5%) and malignant lymphoma 1 (0.5%). 24 (11.2%) biopsies were inadequate for histological opinion.

Conclusion: Cervical punch biopsy technique is an adequate procedure in the diagnosis of cervical cancer.

TREATMENT OF ADVANCED CERVICAL CANCER WITH CHEMORADIATION: A POPULATION BASED STUDY

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Background and Aims: Chemoradiation is now the standard treatment of advanced cervical cancer, but it is unknown how applicable this is in clinical practice, where treatment schedules may be compromised by patient fitness, choice and tolerability. The aim of this population-based study was to assess how many patients with advanced cervical cancer were optimally treated with chemoradiation.

Methods: All patients diagnosed with cervical cancer from 1st January 2000 to 31st December 2005 were identified from the Grampian Gynaecological Cancer Database. This is a record of all gynaecological cancers within a fixed geographical area. All cases of advanced cervical cancer (Stage IB – Stage IV) not treated with surgery were included.

Results: There were 97 women with advanced cervical cancer over the 6-year period. 78 women (80%) commenced chemoradiation treatment. Of these 78 women: 66 completed 5 cycles of cisplatin with 25 fractions of external beam radiotherapy (66/97.68%). A further 5 women completed 4 cycles and the remaining 7 had between 1-3 cycles of chemotherapy. All completed external beam radiotherapy treatment.

Nineteen women (20%) did not have chemotherapy treatment. Three women died shortly after diagnosis, seven patients were given palliative radiotherapy only, one patients refused chemotherapy treatment, eight women were not felt to be suitable due to their medical history.

Conclusions: Chemoradiation treatment is well tolerated and applicable to the majority of women with advanced cervical cancer.

CLINICAL AND HISTOLOGIC SIGNIFICANCE OF ATYPICAL GIANDULAR CELLS (AGC) ON PAP SMEAR

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Background and Aim: AGC on Pap smear is uncommon but may represent a variety of benign and malignant lesions. The aim of this study was to evaluate the association between atypical glandular cell (AGC) on Pap smear and significant pathologic finding to tailor management protocols.

Method: Between 2002 and 2005, sixty women with AGC pap smears were referred to our colposcopy clinic. Forty one women underwent colposcopy directed biopsy, endocervical curettage, endometrial sampling and cervical conization to determine the cytologic and histologic correlations of AGC in pap smears.

Results: The mean age of the patients was 46.92 ± 11.48 years (range, 23-80 years). Of these patients 13 patients (31.7%) were post menopause and 28 patients (68.2%) were in reproductive age.

We found 13 (31.7%) significant pathologic findings including 4 (9.7%) high grade squamous intraepithelial lesion (HG-SIL), 3 (7.3%) low grade squamous intraepithelial lesion (LG-SIL), 2 (4.8%) glandular atypia, 1 (2.4%) adenocarcinoma of uterus, 1 (2.4%) adenocarcinoma of cervix, 1 (2.4%) squamous cell carcinoma of cervix and 1 (2.4%) papillary serous tumour of ovary. There was not any significant difference in the prevalence of significant pathologic findings and subtype of squamous or adenomatous lesions between pre and postmenopausal group.

Conclusion: AGC on Pap smear was associated with a clinically significant diagnosis in approximately one third of our cases. The women with a diagnosis of AGC on cervicovaginal smear are needed to be evaluated at least with colposcopy, endocervical and endometrial curettage. Clinicians should be careful about the significance of AGC in pap smears.

THE FREQUENCY OF SIGNIFICANT CERVICAL PATHOLOGY IN WOMEN WITH POSTCOITAL BLEEDING

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Background and Aims: The prevalence of significant cervical pathology in women with postcoital bleeding is not well documented.

Method: Between 2002 and 2005, sixty women with AGC pap smears referred to our colposcopy clinic. Forty one women underwent colposcopy directed biopsy, endocervical curettage, endometrial sampling and cervical conization to determine the cytologic and histologic correlations of AGC in pap smears.

Results: The mean age of the patients was 46.92 ± 11.48 years (range, 23-80 years). Of these patients 13 patients (31.7%) were post menopause and 28 patients (68.2%) were in reproductive age.

We found 13 (31.7%) significant pathologic findings including 4 (9.7%) high grade squamous intraepithelial lesion (HG-SIL), 3 (7.3%) low grade squamous intraepithelial lesion (LG-SIL), 2 (4.8%) glandular atypia, 1 (2.4%) adenocarcinoma of uterus, 1 (2.4%) adenocarcinoma of cervix, 1 (2.4%) squamous cell carcinoma of cervix and 1 (2.4%) papillary serous tumour of ovary. There was not any significant difference in the prevalence of significant pathologic findings and subtype of squamous or adenomatous lesions between pre and postmenopausal group.

Conclusion: AGC on Pap smear was associated with a clinically significant diagnosis in approximately one third of our cases. The women with a diagnosis of AGC on cervicovaginal smear are needed to be evaluated at least with colposcopy, endocervical and endometrial curettage. Clinicians should be careful about the significance of AGC in pap smears.
Background: The purpose of this study was to identify the frequency of histologic abnormalities in women presenting with post coital bleeding.

Method: Between April 2002 and September 2005, 366 patients with post coital bleeding (PCB) attending in colposcopy clinic of ValiAsr University Hospital in Tehran, Iran underwent colposcopic examination and in unsatisfactory cases, endocervical curettage was performed. In the cases of abnormal colposcopic findings biopsy was done. Then the histologic reports were evaluated.

Results: The mean age was 37.86±9.53 years and the mean duration of having PCB was 3.6±2.25 months. The only significant abnormal finding in Pap smear of the patients was atypical squamous cell of undetermined significance (ASCUS) (48 cases, 13.11%). Abnormal pathologic lesion was significantly more common in patients with ASCUS Pap test in comparison to normal Pap smear (41.7% vs. 27%). Of the entire population (366 pts), we had 104 (28.4%) significant pathologic findings including; 68/366 (18.57%) CIN1, 13 (3.55%) CIN2, 11 (3%) CIN3 and 12 (3.27%) cervical cancer. In the remaining 262 cases, there was benign lesions including; chronic cervicitis in 202 (55.1%) and cervical polyps in 24 cases (6.55%), endometrial polyp in 12 cases (3.27%) and metaplasia in 24 cases (6.55%).

Conclusion: Although invasive cancer is a rare event in women with post coital bleeding, approximately one third of patients have pre malignant and invasive cervical cancer, which is much more common than the general population. Prompt referral to a colposcopy clinic is indicated.

0361 VALUE OF 3D SONOGRAPHY FOR ADNEXAL MASS CHARACTERIZATION
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Background: Preoperative separation of malignant from non-malignant lesions must be reliable to ensure that surgical therapy is appropriate.

Goal: To evaluate the diagnostic contribution of contrast-enhanced vascular 3D sonography for diagnosing malignancy of adnexal masses.

Design: Prospective study of patients seen in a teaching hospital for adnexal masses. All underwent 2D gray scale sonography (ATL HDI 5000) and 3D power Doppler sonography (General Electric, Voluson 730 Expert) + contrast injection (Levovist). Performance of 2D was evaluated using the Risk of Malignancy Index (RMI) as well as a subjective score (1-5, positive when ≥3). With 3D, we assessed vessel density (score 1-3), vessel distribution (peripheral, penetrating, mixed); vascularization index (VI), flow index (FI), vascularization-flow index (VFI); and a subjective score (1 to 5). The gold standard was histologic diagnosis.

Results: 99 patients (age 45 ± 14 years) had both investigations and underwent surgery : 88 benign lesions, 6 borderline lesions, and 6 ovarian cancers. With 2D sonography, RMI1 values >200 were observed in 1, 1, and 3 patients, and RMI2 values >125 in 10, 10, and 4 patients, with benign, borderline, and malignant lesions, respectively. The 2D subjective score had high NPV, but the 3D score had better sensitivity. Vessel density and distribution were not better than the 3D subjective score. Median vascularization index values were not significantly different across the three groups.

Conclusion: 3D sonography is only slightly better than 2D sonography for diagnosing malignancy of adnexal masses. The operator’s subjective score is as reliable as the Doppler indices.

0362 CERVICAL CARCINOMA SIMULATING ADVANCED OVARIAN CANCER: REPORT OF THREE CASES AND REVIEW OF THE LITERATURE
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Background: Ascites, involvement of peritoneal cavity and ovaries in cervical cancer are rare events. We could find a few cases reported in the literature.

Cases: We report three cases of cervical carcinoma with peritoneal involvement and ascites. Cervical pathology was adenosquamous carcinoma in two cases and mucinous carcinoma in another. All the cases presented with sungs of abdominal swelling and ascites following external pelvic radiotherapy and underwent surgical exploration. Postoperative chemotherapy was performed.

Conclusion: Ascites following external radiotherapy in cervical cancer is a rare manifestation due to wide spread dissemination of intra abdominal tumor involvement.

0363 ANALYSIS OF MTA1 GENE EXPRESSION FOR UTERINE CERVICAL CANCER BY CDNA MICROARRAY AND TISSUE ARRAY
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Background and Aims: cDNA microarray and tissue array was utilized for the profiling of differentially expressed genes in uterine cervical squamous cell carcinoma. Metastasis associated 1 gene (MTA1) was investigated using these methods, and we correlated gene and protein expression of MTA1 with the invasion and metastasis of cancer.

Methods: Gene expression profiles for paired cancerous and non-cancerous uterine cervical tissue samples from an individual by means of a cDNA microarray representing 17,000 genes were analyzed. Of the differentially expressed genes, we assessed the MTA1 gene at the protein level using tissue array and immunohistochemistry.

Results: The expressions of 15 and 21 genes were noted to have more than fivefold increase or decrease in the cervical squamous cell carcinoma tissue compared to the non-cancerous cervical tissue. The changed genes were those associated with DNA synthesis/repair, apoptosis, modulation of transcription, signal transduction, enzyme, cell cycle, cytoskeleton, metabolism, cell adhesion, extracellular matrix, immune response and others. Expression of MTA1 was evaluated by immunohistochemistry in 34 squamous cell carcinoma in situ, 32 microinvasive carcinoma and 56 invasive squamous cell carcinoma. Increased expression of MTA1 was significantly correlated with depth of invasion and lymph node metastasis. There was no statistically significant relationship between MTA1 expression and age, and FIGO stage.

Conclusions: These results suggest that MTA1 may closely related to invasiveness and progression in cervical cancer. Thus, MTA1 could potentially provide information on the mechanism of cancer invasion and metastasis.
0364
MAGNESIUM SUPPLEMENTATION AND PERIPHERAL NEUROTIVITY ASSESSED BY ELECTROPHYSIOLOGY AFTER CISPLATIN AND PACLITAXEL THERAPY FOR EPITHELIAL OVARIAN CANCER (EOC)
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Background: Paclitaxel and cisplatin are used in therapy for ovarian cancer with peripheral neurotoxicity. Magnesium could block the N-methyl-D-aspartate receptor which implies the neurotoxicity.

Patients and Methods: A double-blind, placebo-controlled, randomised study in which magnesium sulphate as 5 g iv infusion before each of the chemo (PP - paclitaxel 135 mg/m2 over 24 h infusion plus cisplatin 75 mg/m2, median 6, range 4-6) every 3 weeks. Orally magnesium subcarbonate 500 mg three times daily was given between chemo. Clinical and instrumental examination was based on the Common Toxicity Criteria National Cancer Institute (CTC NCI).

Results: 24 EOC (2003-2006) patients were enrolled. Clinically sensory neurotoxicity in 4% (1/24) as grade 3, 17% (4/24) as 2 grade, 54% (13/24) as 1 grade. The motor neurotoxicity was assessed in 4% (1/24) as 3 grade, 13% (3/24) as 2 grade and 62% (15/24) as 1 grade. On the instrumental examination we observed significant changes in the parameters in the amplitude muscular potential in the extremities (p<0.001), and conduction velocity before and after treatment (p = 0.006). The amplitude of the sensory potential was significantly decreased in the median and sural nerves before and after treatment (p<0.001). Sensory conduction velocity was significantly decreased in both nerves after treatment (p<0.001). The severity in motor and sensory of the decreased was similar in the group treated chemotherapy with protective supplemented magnesium and placebo group.

Conclusions: We conclude that magnesium supplementation during chemotherapy did not protect from neurotoxicity after chemo in patients with ovarian cancer.

0365
SUPRACLAVICULAR LYMPH NODE METASTASIS IN CERVICAL CANCER
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Background and Aims: To evaluate the outcome and prognostic factors of patients with supraventricular lymph node (SclN) involvement at primary diagnosis.

Methods: We reviewed medical records of cervical cancer patients primarily treated at Chang Gung Memorial Hospital between 1987 and 2005. Thirty-three patients with histologically confirmed SclN metastasis at primary diagnosis were eligible for analysis. Clinical and pathological features were analyzed for association with outcome. The cut-offs of continuous variables were determined accordingly to the receiver operating curve analysis.

Results: The 3- and 5-year survival rates of patients with SclN metastasis were 16.5% and 16.5%, respectively. Multivariate analysis showed serum level of squamous cell carcinoma antigen ≥15 ng/mL at initial diagnosis (hazard ratio [HR] = 3.76, 95% confidence interval [CI] = 1.23-11.51; P = 0.021) and staging/restaging including [18F] fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET) (without versus with FDG-PET, HR = 5.04 [95% CI 1.61-15.81]; P = 0.026) to be significant prognostic factors.

Conclusion: Primary SclN metastasis in cervical cancer is not incurable. Prognosis of those who had serum squamous cell carci-
Conclusion: High grade squamous cervical cancers are usually seen in elderly population with a higher rate of lymphatic metastasis.

Aim and Objective: To evaluate the clinical and pathological response of neoadjuvant chemotherapy in patients with early stage bulky carcinoma cervix. Material and Methods: 25 patients of histologically proven early stage bulky squamous cell carcinoma cervix from July 2004 to December 2005 were enrolled. All patients received Cisplatin 20 mg/m² X 5 day and Ifosfamide 1.2 gm/m² X 5 days at an interval of 21 days for 2-3 cycles. 24 patients were taken up for Wertheim’s hysterectomy. Observation: Patients age ranged 32-61 years. 76% multipara, 96% premenopausal. 56% patients were stage IB, 20% in stage IIA and 24% in stage IIB. All but one patient tolerated chemotherapy well. One patient had progressive disease on chemotherapy and did not undergo surgery. There was no major intra-operative complication. Overall clinical response was 96% (24). Out of 24 patients complete clinical-pathological response was seen in 3 (12.5%) patients. Partial response was seen in 21 (87.5%) patients. Positive lymph nodes were present in 7 (29.1%). Positive surgical margin in 1 (4%) patient. No patient showed parametrial disease. Based on high factors, 7 (29.1%) patients required adjuvant therapy with 5 (20.8%) due to poorly differentiated tumors. Conclusion: Neoadjuvant chemotherapy is certainly a feasible and effective method of increasing operability, reducing morbidity and improving results in early stage bulky carcinoma cervix.

EXPERIENCE WITH RADICAL HYSTERECTOMY IN EARLY STAGE CARCINOMA CERVIX AT OSMAL HOSPITAL IN NORTHERN INDIA

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Cancer of uterine cervix is the most common cancer in females in developing countries including India. In early stage disease radiotherapy and surgery give comparable results with avoidance of radiation induced complications in surgically treated cases.

Aims and objectives: To study the morbidity, recurrences, and 3 yrs survival after radical hysterectomy in early stage Ca Cervix.

Material & Methods: From Jan1999-Dec 2003, 137 patients with histological proven early stage Ca Cervix who underwent surgery as primary modality of treatment were studied.

Observation: Age varied 27-65 yrs, 78(54.7%) were postmenopausal. 63.5% were from rural area. Majority 134(97.8%) was stage Ib, 3 cases Stagea. 118(86.1%) were squamous cell carcinoma, 19 were adenocarcinoma. Out of 137 patients, all were operable except one where bladder invasion was detected in spite to normal pre-operative cystoscopy. Average duration of surgery was 3 hrs. (88.32%) with blood loss of 412 +105 ml. 10 (7.29%) received more than two blood transfusion. In majority of cases no major intra-operative complications occurred. Excessive bleeding in 12 (8.9%) cases, ureteric injury in 2 (1.46%) cases, bladder injury in 1 (0.73%) case, and minor vascular trauma in 8 (5.08%) cases. All were managed successfully. Per-operative mortality was 1 (0.73%). Delayed complication in the form of leg oedema 5 (4.5%), bladder hypotonia 5 (4.5%) and ureteric stricture was seen in 4 (3.5%) patients. The most common indication for adjuvant therapy was positive lymph-nodes 35 (26.5%). Vaginal surgical margin was positive in 16 (11.76%) patients. 52 (37.96%) patients received adjuvant radiotherapy. Follow up range 0 months to 5 years. At 3yrs follow up 96 (85.71 %) patients were free of disease.
canceria over the past three decades, operation-related morbidity remains unacceptably high. The goal of this review was to determine the effects of Long/Great Saphenous vein preservation in inguinal lymph node dissections on postoperative morbidity and complications in patients with vulvar squamous cell carci-noma.

**Methods:** A structured literature search of MEDLINE, Cochrane database of systematic reviews and EMBASE using MeSH words “Vulvar Neoplasms” and “Lymph Node Excision” was done for articles in English from 1988 to present. The search was supplemented by hand searching the reference lists of relevant papers and appropriate textbooks. Studies comparing postoperative morbidity after inguinal lymphadenectomy through separate incisions with sparing versus ligation of Saphenous vein were included.

**Results:** Four studies including one prospective pilot study and three retrospective studies were eligible for inclusion. Out of the total of 563 groin dissections, Saphenous vein was preserved in 219 and ligated in 344. Due to heterogeneity of studies, pooling of results was not possible. Incidence of following complications was significantly lower in Saphenous vein preservation group: cellulitis (%41–100 reduction), wound breakdown (%50–66 reduction) and lymphedema (%50–572 reduction).

**Conclusion:** Saphenous vein preservation during inguinal lymph node dissection for vulvar squamous cell carcinoma seems to reduce the rate of postoperative morbidity and should routinely be done when practically feasible.

**0372**

THE CLINICAL VALUES OF SQUAMOUS CELL CARCINOMA ANTIGEN AND CARCINOEMBRYONIC ANTIGEN IN PATIENTS WITH CERVICAL CANCER TREATED WITH CONCURRENT CHEMORADIOThERAPy

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**Background and Aims:** To determine the prognostic significance of the pre- and post-treatment serum squamous cell carcinoma antigen (SCC-Ag) and carcinoembryonic antigen (CEA) levels in cervical cancer.

**Methods:** From 2001 to 2005, 211 patients treated by cis-platin based concurrent chemoradiotherapy (CCRT), were included in this study. SCC-Ag and CEA levels were measured before treatment, 1 month after treatment, and during follow-up. The association of pre-treatment tumor marker levels with the clinical prognostic factors was evaluated. Clinical complete remission (CR) and post-treatment tumor marker normalization was also analyzed.

**Results:** The pre-treatment serum levels of CEA and SCC-Ag were elevated in 68 (32.2%) and 148 (70.1%) patients, respectively. The number of patients with elevated pre-treatment SCC-Ag and its mean values were significantly related with FIGO stage, tumor volume and MRI pelvic lymph node status (p < 0.05). Pre-treatment CEA was related only with tumor volume and pelvic lymph node involvement status with significance. One month after the completion of CCRT, the CEA and SCC-Ag levels were normalized rapidly in almost all patients with the incidence of 88.2% (60/68) and 95.8% (138/148). Among the patients who gained CR at 3 months after CCRT with previously elevated pre-treatment CEA and SCC-Ag, the values were normalized in 92.1% (58/63) and 96.4% (134/139) at 1 month.

**Conclusions:** Combination assays of pre- and post-treatment (especially, at 1 month) serum CEA and SCC-Ag levels seem to be useful to predict the prognosis and to estimate the clinical response in cervical cancer treated with CCRT.
the specificity of these markers was as high as 100% and 96.7%. The SCC-Ag difference (ΔSCC-Ag), defined as the gap of just before and just after elevation, showed a good clinical performance in predicting recurrence. The optimal cutoff value of ΔSCC-Ag was 0.95 ng/ml using a receiver operating characteristic (ROC) curve. However, ΔCEA was not so good as ΔSCC-Ag.

Conclusions: SCC-Ag is a good follow-up monitoring method to detect tumor recurrence in cervix cancer after CCRT. CEA monitoring seems to have limited benefit.

0375
CORRELATION BETWEEN VAGINAL CUFF DOES AND VAGINAL COMPLICATIONS IN CERVICAL CANCER PATIENTS TREATED WITH HIGH DOSE RATE (HDR) BRACHYTHERAPY (BT)

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Background: The correlation between vaginal doses and vaginal cuff tolerance using HDR-BT has not yet been assessed due to insufficient data. This analysis aims to examine this correlation in patients treated by EBRT and HDR-BT.

Methods: Fifty cervical cancer patients were treated in years 1998-2002 with external beam radiotherapy, concomitant weekly cisplatin and HDR BT. Average age was 59.6 years (38-93). Average time from completion of the treatment to assessment was 50.7 ±19.8mo. All patients were FIGO stage IB2-IIIB. Doses to the vaginal mucosa were assessed using 2 sets of points for each ovoid. Total doses for the whole EBRT and brachytherapy at the vaginal points were calculated for each patient. Bowel, urinary and sexual function were assessed at 2 years and at 4 years following completion of the treatment, using the EORTC – RTOG toxicity score.

Results: Average dose to the vault was 10275 cGy ± 1143 cGy (range: 7928 – 14251 cGy). Grade 0-1 toxicity to vaginal vault was observed in 37 patients, grade 2 in 5 patients and grade 3 in only one patient. Toxicity could not be assessed in 7 patients due to early restorations or surgical interventions. A correlation between vaginal vault doses and toxicity was not found.

Conclusions: As has been shown for LDR-BT, in the absence of severe toxicity at the vaginal vault using HDR-BT, it is suggested that doses in excess of 14251 cGy to the vaginal vault can be delivered when indicated. The maximal doses should be assessed by further studies.

0376
A PHASE II STUDY OF SEQUENTIAL THERAPY OF IMIQUIMOD AND PHOTODYNAMIC THERAPY FOR VULVAL intraEPITHELIAL NEOPLASIA

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Background and Aims: The aim of this study was to demonstrate the tolerability of Imiquimod and photodynamic therapy (PDT) used sequentially and to assess lesion and immunological response in women with VIN 3.

The hypothesis was that VIN lesions pre-treated with an immune response modifier would respond more favourably to photodynamic therapy.

Methods: VIN lesions were documented at baseline using linear measurements and photographs. Vulval biopsies were obtained for histological grading, HPV typing and immunohistochemistry. Women self applied Imiquimod to their VIN lesions three times per week for 8 weeks. Two PDT treatments were delivered one month apart to a total of 100 joules/cm² using methylated ALA as a photosensitiser.

Follow up consisted of lesion measurement and photography as well as biopsies for histological grading, HPV typing and immunohistochemistry.

Women were followed up to 12 months.

Results: 20 women were recruited. Four women made a complete response and 9 women made a partial response at six months. Follow up at 12 months is available for 10 women and response rates are maintained at this time point with 3 complete responses and 4 partial responses. Twelve month data on the whole cohort will be presented. Imiquimod significantly increased CD8 T cells within VIN lesions. Non-response to Imiquimod was associated with an increase in T regulatory cells within VIN lesions.

Conclusions: Sequential Imiquimod and PDT shows promise as a treatment for VIN 3.

0377
SERUM YKL-40 LEVELS IN PATIENTS WITH CERVICAL CANCER ARE ELEVATED COMPARED TO PATIENTS WITH CERVICAL intraEPITHELIAL NEOPLASIA AND HEALTHY CONTROLS

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Background and Aims: YKL-40 is secreted by cancer cells, macrophages and neutrophils. The exact function of YKL-40 is unknown. It may be a growth or differentiation factor, play a role in angiogenesis or protect against apoptosis. High serum YKL-40 is associated with poor prognosis in breast-, colorectal-, ovarian-, prostate-, small cell lung cancer and malignant melanoma. The aim was to examine serum YKL-40 in patients with cervical cancer and cervical intraepithelial neoplasia (CIN).

Methods: YKL-40 was determined by ELISA (Quidel, Santa Clara, CA) in pretreatment serum samples from 116 patients with cervical cancer (FIGO stage Ia (N=5), Ib (N=55), II (N=27), III (N=25) and IV (N=4); and 152 patients with CIN. The controls included 63 healthy women undergoing sterilization and a group of 134 healthy women.

Results: Serum YKL-40 was increased (p < 0.001) in patients with cervical cancer (median 76 µg/l, range 20-2310) compared to patients with CIN (45 µg/l, 20-288), women undergoing sterilization (37 µg/l, 20-125) and healthy women (43 µg/l, 20-172). Serum YKL-40 increased with increasing stage (IA: median 36 µg/l, range 26-137; IB: 56 µg/l, 20-984; II: 92 µg/l, 28-2310; III: 163 µg/l, 40-1474; and IV: 224 µg/l, 137-391; p < 0.001 Kruskal-Wallis test). All stage IV patients, 72% stage III, 52% stage II, 24% stage Ib, 40% stage Ia and 13% of patients with CIN had elevated serum YKL-40 compared to healthy controls.

Conclusion: Median serum YKL-40 is elevated in patients with cervical cancer. The serum level of YKL-40 seems to be correlated to the stage.

0378
PROGNOSTIC FACTORS PREDICTING SURVIVAL IN PATIENTS WITH FIGO STAGE IB CERVICAL CANCER TREATED SURGICALLY

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Abstracts 707

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Backgrounds and Aims: International Federation of Gynecology and Obstetrics (FIGO) stage system of cervical cancer could not comprise the various pathologic risk factors to predict the prognosis. The present study was designed to identify the independent pathologic prognostic factors for patients with FIGO stage IB cervical cancer.

Methods: The medical records of 128 patients, who underwent type III hysterectomy and pelvic ± paraaortic lymphadenectomy for FIGO stage IB cervical cancer were reviewed from March 1997 to August 2003. Survival curves were calculated using the Kaplan-Meier method. Disease-free survival and overall survival were compared between different groups using the log-rank test. Multivariate analyses were performed by the Cox proportional hazards model. Significance level of all analyses was 0.05.

Results: With a median follow-up of 51 months (range 13–98 months), a total of 16 patients (12.5%) recurred and 12 patients (9.4%) died of disease. In univariate analysis, lymph node involvement and deep stromal invasion were found to be significant prognostic factors on the disease free survival and overall survival. The multivariate analysis showed that lymph node involvement was the only independent prognostic factor for disease free survival (HR, 3.89; 95% CI, 1.33 – 11.50; p = 0.01) and overall survival (HR, 4.24; 95% CI, 1.34 – 13.38; p = 0.01).

Conclusions: The present study suggests that adjuvant radiation therapy attenuated the significance of the risk factors such as parametrial extension or deep stromal invasion, and more effective treatment strategies should be developed for patients with lymph node involvement.

DIFFERENCE IN THE NATURAL HISTORY OF INTRAEPITHELIAL NEOPLASIA GRADE 1 (CINI) BY HUMAN PAPILLOMAVIRUS (HPV) INFECTION AND HPV-DNA TYPE IN JAPANESE WOMEN
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Background and Aims: To evaluate if the natural history of CINI is different by the infection of HPV and/or HPV-DNA typing in Japanese women.

Methods: The 224 patients diagnosed as CINI between April 1995 and April 2004 was prospectively followed up. Excluded were those who were under follow-up less than 12 months without progression. The patients were required to visit every 3 months unless Pap-smear normalization. Pap-smeared, HPV-DNA typing, and colposcopy without biopsy were performed every visit and biopsy was done when the progression is suspected cytotologically or colposcopically. Progress was analyzed with Kaplan-Meier method and Log-rank test.

Results: Mean age of patients was 40.3 (range 16–80). Median follow-up was 31.6 months (range 6–117). Of 224 patients 114 were positive for HPV. The most predominant HPV-DNA type was x52 (n=30, 26%) followed by x16 (n=21, 18%), x58 (n=21, 18%), x51 (n=15, 13%), and others (n=27, 23%). Normalization rates of Pap-smeared for patients without HPV infection were 74.6%, 89.1, and 95.9% at 12, 24, and 36 months, respectively. Although normalization rates of Pap-smeared in patients with HPV x16 infections were extremely low (23.8%, 40.4%, and 50.0%, respectively), those rates in patients with non x16 HPV infection were not different from those without HPV infection.

Conclusions: Normalization rates of Pap-smeared in patients of CINI with non x16 HPV infection are the same as those without HPV infection. The role of thermo-surgical interventions must be clarified in CINI patients with HPV x16 infection.
COMPARATIVE ASSESSMENT OF CERVICOGRAPHY, CONVENTIONAL PAPANICOLAOU SMEAR AND A FLUID-BASED THIN-LAYER METHOD

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Background and Aims: The aim of this study was to evaluate the diagnostic performance of conventional Papanicolaou smear, a fluid-based thin-layer method and cervicography as primary screening test of cervical cancer.

Methods: Among all patients screened by cervicography from January 2003 to Jun 2004, 357 patients who were examined by the conventional Pap smear or ThinPrep Pap test and cervicography as a screening procedure for cervical cancer and taken by the subsequent colposcopy directed biopsy as required, were analyzed with a receiver operating characteristic (ROC) curves and divided into two groups: conventional Pap group (n = 256) and ThinPrep group (n = 101).

Results: ThinPrep group showed higher sensitivity (86.0% > 64.0%), higher negative predictive value (78.4% > 65.0%), lower false negative rate (21.6% < 5.0%), but lower specificity (66.0% < 79.3%), lower positive predictive value (66.2% < 78.8%), higher false positive rate (33.8% > 21.2%). Cervicography showed no significant difference between each group. In ThinPrep group, ROC curves showed the AUC of ThinPrep 0.848, the AUC of cervicography 0.585. ThinPrep group was higher with statistical significance. (P = 0.0001). In conventional Pap group, the result of ROC curves showed the AUC of conventional Pap 0.750, the AUC of cervicography 0.680. Conventional Pap group was somewhat higher but there was no statistical significance. (P = 0.0975).

Conclusions: ThinPrep Pap test showed significant higher diagnostic accuracy than cervicography. However, conventional Pap test revealed somewhat better screening performance than cervicography without statistical significance. Therefore, the ThinPrep Pap test might be an effective screening test in detecting precancerous lesion of the uterine cervix.

CHEMORADIATION FOLLOWED BY RADICAL SURGERY IN LOCALLY ADVANCED CERVICAL CARCINOMA: LONG-TERM RESULTS OF A FEASIBILITY STUDY

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Aims: To determine feasibility, morbidity, response rate and survival of chemoradiation and radical surgery in locally advanced cervical carcinoma(IIb-IVa).

Methods: Since 1/1999 to 6/2005, 23 patients were submitted to preoperative concomitant chemoradiation (5-7 weekly Cisplatin 40mg/m² with standard external pelvic RT(50.4Gy)), followed by type3 radical hysterectomy(RH) and pelvic + para-aortic lymphadenectomy. Brachytherapy (15-20Gy) was postoperatively delivered in 14 cases with vaginal cuff residual disease.

Results: Median age: 49 years (36-73). FIGO stage: 5 IbII, 5 IaIIa, 6 IbIII, 7 IVa. Twenty patients completed the 5 planned minimum courses of chemotherapy. Reasons for interrupted treatment: 1G3 thrombocytopenia, 1G4 neutropenia, 1G4 allergy. Overall clinical response rate: 74% (17/23 PR). Radical surgery consisted of type3 RH in 15 cases and anterior exenteratio(AE) in two. Six patients received minor surgery, because of peritoneal/nodal disease. Feasibility rate of radical surgery (RH + AE) was 85%. Pathological complete responders were 7 (31%); 16 patients had residual disease (69%); 8 cases (34%) had nodal metastases.

Median Operation Time: 270 min(120-420); intra-operative bleeding > 400ml: six cases. No intraoperative urinary tract lesions were registered. Early complications: 1G1-G2 hydroureteronephrosis, 2G1-G2 infection, 10 transient urinary retention. Late toxicity: one ureteral fistula and 10G2 small bowel toxicity. Median follow-up: 42 months(3-82). Five patients relapsed (4 DOD). Progression Free Survival: 72%. Overall Survival: 71%.

Conclusions: Chemoradiation followed by radical surgery is feasible, with an acceptable treatment-related morbidity, and could be of substantial benefit in advanced cervical cancer. The clinical response to chemoradiation is not correlated with pathological evaluation. The high rate of residual lymph-node involvement supports the opportunity of lymphadenectomy, in order to reduce latero-pelvic recurrences.

MCM3 IS SUPERIOR TO H&E STAINING IN DIFFERENTIATING KOILOYCTOSIS FROM CERVICAL INTRA-EPITHELIAL NEOPLASIA (CIN)

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Cervicography can interfere with accurate assessment of CIN leading to false negative diagnosis of high-grade lesions. High levels of p27 are present in quiescent cells, and MCM3 mRNA in G1 – 5 phases of the cell cycle. Expression of MCM3 and absence of p27 in invasive cancer indicate poor prognosis. This immunocytochemistry study investigated expression of the two protein products in excision biopsies. The aim was to determine at what stage in cervical carcinogenesis does MCM3 and p27 appear and disappear respectively. Could this assist in grading of CIN? Koilocytos is was present in 40/59 (68%) of the biopsies, and the cells were negative for both p27 and MCM3. Where a section contained all three grades of CIN, the cells were progressively highlighted with MCM3 nuclear staining from CIN1 to CIN3. p27 was invariably absent in high grade CIN. There was concordance between H&E sections, MCM3 positive and p27 negative staining in 42 (71%) high-grade CIN and four low-grade lesions. Four cases were upgraded to CIN2 on MCM3 staining. Three cases were downgraded to squamous metaplasia or koilocytopsis on MCM3 staining, but there were high-grade lesions in other sections on review. The absence of MCM3 in koilocytosis suggests a pre-neoplastic stage in cervical carcinogenesis, but the cells are not quite as they lack p27. MCM3 assists in assessment of low-grade lesions such as koilocytopsis and CIN1, where grading is more subjective. Application of MCM3 immunocytochemistry staining in small biopsies could make a difference between conservative and surgical treatment.

A PILOT PHASE II TRIAL OF CONSOLIDATION CHEMOTHERAPY FOLLOWING CONCURRENT CHEMORADIATION IN LOCALLY ADVANCED CERVICAL CARCINOMA

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Background: To evaluate the efficacy and toxicity of consolidation chemotherapy following concurrent chemoradiation with 5-fluorouracil (5-FU) and cisplatin and high-dose rate brachytherapy in patients with locally advanced cervical carcinoma.

Methods: Thirty-two patients with locally advanced cervical carcinoma (FIGO stage Ib2 – IVA) were treated with external beam radiotherapy to the whole pelvis (50.4 Gy) and high-dose rate brachytherapy (24 Gy to point A). Cisplatin 60 mg/m² (Day 1) and 40 mg/m² with standard external pelvic RT(50.4Gy), followed by type3 radical hysterectomy(RH) and pelvic + para-aortic lymphadenectomy. Brachytherapy (15-20Gy) was postoperatively delivered in 14 cases with vaginal cuff residual disease. Reasons for interrupted treatment: 1G3 thrombocytopenia, 1G4 neutropenia, 1G4 allergy. Overall clinical response rate: 74% (17/23 PR). Radical surgery consisted of type3 RH in 15 cases and anterior exenteratio(AE) in two. Six patients received minor surgery, because of peritoneal/nodal disease. Feasibility rate of radical surgery (RH + AE) was 85%. Pathological complete responders were 7 (31%); 16 patients had residual disease (69%); 8 cases (34%) had nodal metastases.

Median Operation Time: 270 min(120-420); intra-operative bleeding > 400ml: six cases. No intraoperative urinary tract lesions were registered. Early complications: 1G1-G2 hydroureteronephrosis, 2G1-G2 infection, 10 transient urinary retention. Late toxicity: one ureteral fistula and 10G2 small bowel toxicity. Median follow-up: 42 months(3-82). Five patients relapsed (4 DOD). Progression Free Survival: 72%. Overall Survival: 71%.

Conclusions: Chemoradiation followed by radical surgery is feasible, with an acceptable treatment-related morbidity, and could be of substantial benefit in advanced cervical cancer. The clinical response to chemoradiation is not correlated with pathological evaluation. The high rate of residual lymph-node involvement supports the opportunity of lymphadenectomy, in order to reduce latero-pelvic recurrences.

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5-FU 1000 mg/m^2/d (Days 1-5) were given every 3 weeks, starting concurrently with the radiation and followed by three more cycles of consolidation (total 6 cycles).

**Results:** Thirty patients (30/32) completed planned treatment and average duration of radiation was 54.6 days (range, 43–64 days). The clinical complete response rate was 87.5%. With a median follow-up of 27 months, the estimated 3-year progression-free and overall survival rates were 75% and 92%, respectively. The most common toxicities of grade 2 or higher were nausea and vomiting (47%). Anemia was the most common hematologic toxicity (33% of grade 2 or higher). The overall incidence of late complications in the rectum and bladder were 12.5% and 6.3%, respectively.

**Conclusion:** These results suggest that consolidation chemotherapy following concurrent chemoradiation is well tolerated and effective for patients with locally advanced cervical carcinoma.

**0386 MODE OF BLADDER DRAINAGE AFTER RADICAL HYSTERECTOMY FOR EARLY STAGE CERVICAL CANCER: SUPRAPUBIC OR URETHRAL CATHETER?**

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**Background & Aims:** Lower urinary tract dysfunction is a common morbidity related to radical hysterectomy (RAH). Although a urethral catheter has traditionally been used for postoperative bladder drainage following RAH, suprapubic catheterization (SPC) is an alternative method that may be advantageous. This retrospective cohort study will determine the incidence of UTI, duration of postoperative hospital stay and time to trial of voiding in RAH patients catheterized suprapubically versus transurethrally for early stage cervical cancer.

**Methods:** Two hundred twelve patients who underwent RAH and staging for stage IA1 + LVS, IA2, and IB1 cancer of the cervix in Edmonton, AB, Canada between 1996 and 2006 were included in the study. Three gynecologic oncologists performed the surgeries. Operative, postoperative and demographic data were extracted from patient records. Patients were assigned to SPC or transurethral group by mode of catheterization. Comparative tests and multivariate regression analysis were used to compare outcome measures between groups and adjust for confounding variables.

**Results:** There was a higher proportion of patients with UTI in the urethral catheter group (27%) than the SPC group (6%) (p = 0.0003). The SPC group had a shorter postoperative hospital stay (48 vs. 57 days; p < 0.0001) and an earlier trial of voiding (2.7 vs. 4.4 days; p < 0.0001). Following regression analysis, statistically significant differences remained for UTI and time to initiation of a voiding trial.

**Conclusions:** After RAH for early stage cervical cancer, SPC is associated with a lower rate of UTI and an earlier trial of voiding than a urethral catheter.

**0387 PHASE II STUDY OF COMBINATION CHEMOTHERAPY OF DOCETAXEL AND CARBOPLATIN IN ADVANCED OR RECURRENT UTERINE CERVICAL CANCER: A SANKAI GYNECOLOGY STUDY GROUP (SGSG) STUDY**

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**Background and Aims:** The purpose of this study was to evaluate the efficacy and safety of combination chemotherapy with docetaxel and carboplatin in advanced or recurrent uterine cervical cancer.

**Methods:** Patients (Pts) with FIGO stage Ib2 to IV or recurrent cervical cancer were eligible for this study. Docetaxel and carboplatin were given 3 weekly at doses of 60mg/m^2 and AUC 6, respectively. The response and toxicity were evaluated based on RECIST criteria and NCIC-CTC version 2, respectively.

**Results:** A total 67 pts were enrolled for the study but 2 pts were excluded from analysis. The distribution of FIGO stage was as follows: Ib2:22, II:29, III:5, IV:5, recurrent:4. The overall response rate was 66.2% (CR4, PR39, SD8, PD14). The response rate of patients with squamous cell carcinoma and adenocarcinoma were 65.7% and 67.9%, respectively. Grade 3-4 anemia, leukopenia, and neutropenia were observed in 20.0%, 56.9%, and 78.5% of pts, respectively. Grade 3-4 non-hematological toxicity was not observed.

**Conclusions:** Combination chemotherapy with docetaxel and carboplatin is an effective and safe treatment for cervical cancer.

**0388 WHAT IS THE SIGNIFICANCE OF DIFFERENTIATED VULVAR INTRAEPITHELIAL NEOPLASIA (DVIN)?**

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**Background and Aims:** Two pathways in the genesis of vulval squamous cell carcinoma (SCC) are postulated: human papilloma virus (HPV) associated with a recognised pre-invasive lesion of high grade usual-type VIN, and non-HPV associated, often occurring on a background of lichen sclerosus (LS) and squamous hyperplasia (SH). DVIN is considered a pre-invasive lesion in the latter. P53 mutation is found in 50% of human carcinomas. Previous work by this group has demonstrated overexpression of p53 in LS and DVIN adjacent to SCC.

This study identified cases of DVIN reported in the period 1996-2006, to determine disease progress, and demonstrate the pattern of p53 expression.

**Methods:** Patients were identified with a history of DVIN and histological follow up from departmental records. Their histology was reviewed, and p53 immunohistochemical staining performed using a standard streptavidin-biotin technique.

**Results:** Nine patients were identified who had been followed up over a period of 2–10 years with serial biopsy or resection. Of these, 4 had DVIN with concurrent SCC, 2 DVIN with susequent progression to SCC, and 3 DVIN with as yet no progression to SCC. All patients had a history of LS. In addition, 3 patients had a history of usual type VIN. Overexpression for p53 was seen in all cases of DVIN and subsequent or concurrent SCC.

**Conclusions:** There is a strong association between DVIN and SCC, supported by the overexpression of p53 in both entities. This implies that patients with a diagnosis of DVIN should be under close clinical and histological surveillance.

**0389 NEOADJUVANT CHEMOTHERAPY IN EARLY STAGE CERVICAL CANCER BEFORE FERTILITY SPARING SURGERY**

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**Background and Aims:** In the study protocol with neoadjuvant chemotherapy (NAC) before fertility sparing surgery in early cervical cancer patients, tumor diameter more than 20mm in the biggest diameter or infiltration more than half of the cervix stroma. Last year we started with new study protocol with neoadjuvant chemotherapy (NAC) before fertility sparing surgery.

We enrolled into the study four women which planned pregnancy and we couldn't include them in the classical conservative surgery.
protocol (tumor less than 20 mm and less than half of stromal invasion). Two patients had squamous cell cancer (SCC) IB1, one had mucinous adenocarcinoma IB1 and one had endometrioid adenocarcinoma IB2. All patients received three courses of high dose density chemotherapy (interval 10 days)-cisplatin 75 mg/m² with in cases of SCC ifosfamide 2 g/m² or in cases of adenocarcinoma with doxorubicin 35 mg/m². We performed laparoscopic lymphadenectomy and simple trachelectomy (two step management) 14-21 days after finishing NAC.

Woman with adenocarcinoma IB2 decided to undergo radical hysterectomy, don’t want conservative surgery. All nodes were negative, we didn’t find any tumor in the cervix. All other women underwent conservative surgery. All had negative pelvic lymph nodes, two had small residuum of the tumor (maximally 2mm in the biggest diameter) and one hadn’t any residual tumor in the cervix. We didn’t see any toxicity grade 3 and 4 in cases with platinum-doxorubicin chemotherapy. Both patients with platinum-ifosfamid had trombocytopenia grade 4 after 3rd course of chemotherapy. NAC seems to be feasible in women with early stage cervical cancer, who wish pregnancy and don’t fulfill the conditions of fertility sparing surgery protocol.

0390 PRIMARY SMALL CELL NEUROENDOCRINE CARCINOMA OF THE VAGINA- A CASE REPORT

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We report a case of a 46-year-old woman with small cell neuroendocrine carcinoma of the vagina. This tumor is very rare and to our knowledge there are only 25 reported cases of primary vaginal small cell carcinoma in the English literature. Neuroendocrine small cell carcinoma tends to be an aggressive neoplasm with a propensity for early spread. Long term survival for patients with vaginal primary site has not been documented. Therapeutic decision have been based on information obtained of these tumors elsewhere. Combined modality therapy including concomitant chemo and radiotherapy followed by brachytherapy has produced a complete response in our patient. Relapse has occurred 8 months later, with partial response after 2 lines of palliative chemotherapy.

0391 FOLLOW-UP WITH CYTOLOGY OF WOMEN WITH CERVICAL INTRAEPITHELIAL NEOPLASIA, TREATED BY LEEP EXCISION

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Our aim was to follow the frequency of cytological abnormalities of women, treated for CIN by LEEP, according to CIN grade, margin status and patients’ age. For the period 2000-2005, 200 women, aged 17 to 69 (mean 39.22) with different grades of CIN were studied. All women were subject to LEEP with a subsequent histological examination. The follow-up was conducted for a period of 2 years, by cervical cytology. The data on 1st and 2nd year was compared with the risk factors and were analyzed using t-test. The results from the performed LEEP show normal findings in 15 (7.5%), HPV/CIN1 in 118 (59.0%), CIN2 in 43(21.5%), CIN3 in 22(11.0%) and invasive cancer in 2 (1.0%) women. 180 women were followed and they were divided into 2 groups: 1st with HPV/CIN1 – 118, 57 of them under 40 years (3 with positive margin) and 61 of them over 40 (6 with positive margin) and 2nd with CIN2/3 – 62 women (34 of them under 40 – 4 with positive margins and 28 of them over 40 - 5 with positive margin). The comparison of cytological results with the risk factors shows presence of significant difference, according to margin status in the 1st year (p=0.0123) and in the 2nd year (p=0.00001) and lack of such difference according to the grade of histological findings and patients’ age. Our investigation shows that among the analyzed risk factors margin status can play some role as prognostic factor. The value of other possible factors has been discussed.

0392 OVERALL 5-YEAR SURVIVAL RATE IN PATIENTS WITH CERVICAL CANCER IN BULGARIA

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The object of our study was to perform population based analysis of the 5-year cumulative survival rate in patients with cervical cancer in Bulgaria. The influence of various sociodemographic, pathological, clinical factors and treatment modalities was analyzed. A total of 9457 women aged 19 to 93 (mean 51.41) with invasive cervical cancer was performed using the life tables’ method, with statistical significance at p = 0.05. The overall cumulative 5-year survival is 47.12%. According to age, higher survival was observed for women younger than 35 years. Women in towns have statistically significant better survival (50.14%) than these in villages (38.03%). Significant difference according to the histological type was observed between squamous and adenocarcinoma from one site and some rare histological types from another. Survival is higher for early stages I and II (74.30% and 49.22% respectively) and decreases with advancing extent of disease. The better survival was achieved with surgical treatment (66.23%) and with combining surgery with radiotherapy (61.95%). According to these results, our country takes place among these with low level of survival. Survival on the population level depends on several factors among which the absence of effective prophylaxis and organized screening could be the most important.

0393 HUMAN PAPILLOMAVIRUS INFECTION IN TURKISH WOMEN WITH NORMAL CYTOLOGY AND CERVICAL PREINVASIVE LESIONS: SUBTYPE AND RISK FACTOR ANALYSIS

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Objective: To investigate human papillomavirus (HPV) in women with normal cervical cytology and cervical preinvasive lesions diagnosed in routine Pap test screening and their correlations with risk factors in Turkish women.

Methods: Using prospective, cross sectional study design; 265 cases aged between 19-64 years (104 normal Pap smear, 56 ASCUS, 6 AGUS, 78 LGSIL, 21 HGSIL) were evaluated for HPV subtyping by PCR from July 2004-2005.

Results: The HPV positivity rate in women with normal and abnormal cervical cytology was 12.3% (5/104) and 45.4% (73/161), respectively (P < 0.001). Women with ASCUS, AGUS, LGSIL, HGSIL have the HPV positivity rate of 32.1%, 33.3%, 47.4% and 76.2%, respectively. High risk HPV frequency was highest with HGSIL (71.5%) and was present in 10.7% of ASCUS, 16% of AGUS, 9% of LGSIL cases and 0% of normal cervical cytology group. The detected HPV genotypes were 16 (32%), 18 (2.5%), 31 (12.5%), 39 (3.8%), 11 (51.2%) and (35.1%). Risk factors for HPV infection were significantly (P < 0.001) associated with at age ≤ 35 years, earlier
coitus, smoking, multiple sexual partners, history of sexually transmitted disease, infrequent use of condoms, low socioeconomic status (p = 0.033) and oral contraceptive use (P = 0.004). There was no relationship with parity and abortion. **Conclusion:** Our results showed that HPV infection was restricted to just six subtypes and high risk HPV rates in preinvasive lesions were lower than developed countries. These findings may be associated with the widespread of long-term monogamy with a single circumcised partner in our population.

**0394**

**GENETIC ALTERATIONS AS A NEW BIOMARKER IN GYNECOLOGICAL MALIGNANCIES**

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**Background and Aims:** The aim of the study was to estimate genetic alterations detected in ovarian and cervical cancer cells, in correlation with other available parameters of histopathological and clinical character and to find important relations and differences of both tumors for cancer prognosis.

**Methods:** Sixty patients with ovarian cancer and twenty patients with cervical cancer were included to the study. Tumor tissue was examined by histopathologist, histological type, grade, MIB-1 and p53 were estimated by immunohistochemical method. For genetic testing conventional and molecular method were applied – direct culture, FISH method with painting probes and CGH method. The results were submitted to statistical evaluation.

**Results:** Genetic instability and structural aberrations have been detected in 90% examined chromosomes from ovarian cancer cells and 48% examined chromosomes from cervical cancer cells. Ovarian cancer patients with extensive chromosomal rearrangements were significantly younger. Using CGH analysis deletions were more common findings than amplifications. Specific genetic alterations including some rare and unique findings, both in ovarian and cervical cancer cells, have been found.

**Conclusion:** Special genetic findings, different for ovarian and cervical cancer have been found. Significant importance of genetic alterations and activity of proliferative markers including common correlation with unfavourable outcome in ovarian tumors of younger women have been found. The study has been supported by the Research Project of Ministry of Education (Czech Republic) No 0021620808.

**0395**

**VAGINAL ELASTICITY AND VISCOSITY AFTER PELVIC RADIOTHERAPY AND IMPLICATIONS FOR PRACTICE**

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**Background:** A vagina should have elasticity, minimal viscosity (recoil delay) and adequate length. This paper describes the impact of radiation on these attributes throughout the vagina.

**Methods:** A device to measure pressure perpendicular to the vagina was constructed, calibrated and tested for safely and reproducibility. Elasticity, viscosity and length were measured in mm increments along the vaginal length in triplicate before, during and after radical pelvic radiotherapy.

**Results:** Data is reproducible (95% of data is within 5%). Length after radiation is very variable (range 3-13cm). Viscosity is maintained at the top of the vagina but elasticity is consistently reduced approximately 6 fold after radiotherapy (from 0.2 to 1.2N/mm). In contrast, viscosity, not elasticity is dramatically lost in the lower 3-4cm after radiotherapy. This is illustrated by the hysteresis curves (left > normal vagina; middle > during treatment; right > 6 months after radiation).

**Conclusion:** Current vaginal care after radiation is based on flawed misconceptions. Radiation damages viscosity in the lower 3-4cm and reduces length and distal elasticity. Dilation treatment must focus on length and low vaginal diameter.

**0396**

**THE EVALUATION TRANSPosed OVARIAN FUNCTION IN YOUNG WOMEN WITH CERVICAL CANCER**

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**Objective:** To evaluate the function of transposed ovary and its effect factors in young women with cervical cancer.

**Method:** The patients of cervical cancer who admitted in department of gynecology, Peking University People’s Hospital during Sept. 1999 to January, 2004 and underwent ovarian transportation in peritoneal cavity were followed regularly and analyzed retrospectively. The questionnaire of climacteric symptoms and sexual activity were done. Sera levels of E2 and FSH were measured and transposed ovaries were observed with B ultrasound in the following time postoperaton.

**Result:** The climacteric symptoms of patients who transposed ovary unilateral or bilateral were not significant difference as followed mean times 14.2 and 17.4 months respectively (p > 0.05). However, of the Patients who underwent adjuvant radiotherapy and/or chemotherapy post-surgery, climacteric symptoms was significant more common (86.4%) than without adjuvant therapy(13.3%) (p < 0.05). The sera E2, FSH levels and climacteric symptoms of the patients, who received adjuvant radiotherapy, had no significant difference between the ovaries transposed above 2 cm and low 2 cm of anterosuperior iliac spine horizontal.

**Conclusions:** Transposed ovary to peritoneal cavity could preserve the function of ovary. However, once the patients undergo adjuvant radiotherapy, the function of transposed ovary will be effected whatever the transposed ovary located above or low 2 cm of anterosuperior iliac spine horizontal. Therefore, we shall pay attention to study how to preserve the ovarian function for the young women with cervical cancer.

**0397**

**DO PATIENTS WITH CERVICAL INTRAEPITHELIAL NEOPLASIA (CIN I-III) OR CERVICAL CANCER IN SITU (CC) NEED AN ANTIVIRUS THERAPY DURING STANDARD TREATMENT?**

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**Background:** Genes products of human papillomavirus (HPV) have been identified in more than 99,7% of cervical carcinomas. Several factors may be associated with higher rates of surgical treatment failure, including high-grade CIN, large lesion size, satellite HPV-related lesions, involved margin, persistent HPV infection. The purpose of the study is to evaluate the effect and toxicity of the antivirus therapy of Isoprinosine in the complex treatment of HPV infected patients affected CIN, CC in situ and recurrence of CIN in HPV-positive women after loop conization.
METHODS: Of the 58 pts enrolled, 25 pts were with CIN I-II, 22 pts with CIN III and CC in situ and 11 pts with relapse CIN. The median patient’s age was 35.2 ± 4.4 (range, 18-47 years old); the general status according to activity scale WHO was 0-1, HPV 16 and 18 were discovered in all patients by means of PCR method. Treatment included ablative (laser vaporization) and excision (loop electrosurgical excision procedure and conization) modalities and Isoprinosine at a dose of 1000 mg tree time a day during 10 days. A total of 85 cycles were given. The median follow-up was 14 months.

RESULTS: The effectiveness of Isoprinosine in treating HPV16,18 infected patients was 39(67.2%) pts after one therapy cycle and supplement 11(19%) pts after second cycles, and supplement 46(9%) pts after third cycles. The disease-free survival without evidence of HPV was 13.2 ± 2.4 months.

Conclusions: Surgery with the antivirus therapy of Isoprinosine exhibited a protective effect on the recurrence of any CIN. The investigation is ongoing.

0398 GROIN RECURRENCE IN CARCINOMA OF THE VULVA: MANAGEMENT AND OUTCOME

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Background: Isolated groin recurrence is rare in vulvar carcinoma. The aim of the present study was to investigate the management and outcome of inguinal recurrence in patients with vulvar carcinoma.

Methods: A retrospective chart review was conducted on 140 patients with squamous cell carcinoma of the vulva treated at our Unit between 1994 and 2004.

Results: Twenty-one patients were found to have groin recurrence (mean age at recurrence was 69 years). Median interval time between primary treatment of vulvar cancer and development of groin recurrence was 7 months. Three patients refused any treatment, 3 received platin-based chemotherapy, 2 inguino-pelvic radiotherapy and 13 had surgical resection of the groin recurrence. Following recovery from surgery 7 patients received irradiation of the groin and pelvis with a median of 45 Gy and 3 patients received systemic platin-based chemotherapy. One patient died in the ICU following surgery, 19 patients have died of disease and median survival after diagnosis of the groin recurrence was 9 months. Only one patient is alive without evidence of disease at 60 months following surgical resection of inguinal recurrence. In univariate analysis stage and grade at the time of diagnosis, age and performance status at the time of recurrent disease, and extent of residual tumor after surgical resection of groin recurrence were the only predictor of survival.

Conclusion: Groin recurrences from vulvar carcinoma carry a poor prognosis. Multimodal treatment may result in a palliation of the disease and in a very limited number of patients in long term survival.

0399 CHEMORADIATION FOR ADVANCED CERVICAL CANCER, OUTCOME AND MORBIDITY FROM 98 PATIENTS

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We report our results of cases of advanced cervical cancer treated by primary chemoradiation. 98 patients with good performance status (WHO 0-1) and renal function (GFR > 40 ml/min) were treated with curative intent on the same protocol between 1999 and 2006.

50 Gy was given by external beam in 25 fractions to the whole pelvis, followed by brachytherapy of 15 Gy to point A (divided into 2 HDR insertions a week apart). Cisplatin 40 mg/m² (max 72 mg) was given weekly for five weeks during external beam.

The median age was 50 years (range 37-74). 9 patients were stage IB, 6 stage IIA, 48 stage IIB, 32 stage IIIB, 2 stage IVA and 1 stage IVB. In 78 the histology was squamous cell, in 16 adenocarcinoma and in 4 adenosquamous carcinoma.

Analysis was done on intention to treat basis. 93% of patients achieved at least 95% of the planned radiotherapy dose and 94% received the full 5 cycles of chemotherapy. There were no toxic deaths.

Disease relapse occurred in 25 patients. The first site of relapse was the pelvis in 12 patients and extra-pelvic sites in 13 patients. 22 patients died and 76 remain alive on follow up. The median follow up for surviving patients was 29 months (range 2-77). The overall actuarial 5 year survival was 69%.

Serious late morbidity included one perforation of the sigmoid colon and one rectovaginal fistula.

Our data suggest that patients tolerated the chemoradiation schedule well and had satisfactory morbidity and survival.

0400 CLINICOPATHOLOGICAL CHARACTERISTICS AND PROGNOSIS ANALYSIS OF CIN

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Background and Aims: Some patients with cervical intraepithelial neoplasia 3 (CIN3) diagnosed by colposcopy and punch biopsy are proved to be micro-invasive cervical cancer after surgery. So it is useful to predict and identify micro-invasive cervical cancer in patients with CIN3. We aim to investigate the clinicopathological characteristics in CIN3 and predictive value for potential micro-invasive cervical cancer.

Methods: 160 cases of CIN3 diagnosed by colposcopy and punch biopsy were hospitalized from 1994 to 2005. All the patients received surgical treatments. Cervical specimens were analyzed and follow up were carried out.

Results: 16 cases of invasive cervical cancer were identified. High risk factors for CIN3 associated with invasive cervical cancer were extensive involvement of surface epithelial and endocervical glands. All the patients were followed up for a period of 1 to 12 years and 1 patients died of recurrence 1 year after surgery. 2 nulliparas with microinvasive cervical cancer giving birth 1 years after cold knife conization without recurrence.

Conclusion: The clinical data suggest that CIN3 with extensive involvement of surface epithelial and endocervical glands may contribute to invasive cervical cancer. When these characteristics are present in a punch biopsy specimen of CIN3, cold knife conization and serial sections should be performed first to exclude the presence of invasive cervical cancer. Close follow up are needed for these patients. Cold knife conization could be the choice for nulliparas associated with microinvasive cervical cancer.

0401 COMMENTS ON THE MODIFIED TERMINOLOGY OF VULVAR INTRAEPITHELIAL NEOPLASIA (ISSVD, 2004): IS THE ABANDONMENT OF THE VIN I CATEGORY JUSTIFIABLE?

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We support the adoption of the modified terminology of vulvar intraepithelial neoplasia (ISSVD, 2004) and we recommend the abandonment of the VIN I category. The VIN I category is not protective against recurrent disease when used by experienced gynecological pathologists. Our data suggest that patients tolerated the chemoradiation schedule well and had satisfactory morbidity and survival.
Aim: According to the recently modified VIN classification, the category of VIN I, usual type should be abandoned. The aim of the study is to review cases with VIN I appearance with the emphasis on their biological behaviour.

Material and Methods: Lesions were divided into 3 groups: A. VIN I, usual type (n = 4); B. Transitional pattern VIN I-II, usual type (n = 6); C. Foci of VIN I appearance in lichen simplex chronicus (LSC) (n = 8). Specimens were screened for HPV DNA by means of PCR with GP5/6 + primers and reverse line blot assay was used for HPV typing. The association with high-grade VIN, usual type, CIN and HPV related squamous cell carcinoma (SCC) as well as the immunological status of patients was also assessed.

Results: In the combined A + B group (mean age 40.6 years), all lesions were high-risk HPV DNA positive and their association with high-grade VIN, usual type (87.5%), CIN (62.5%) and SCC (37.5%) was statistically significant. No HPV DNA was detected in the group C (mean age 61.9 years), 12.5% had history of CIN and no association with high-grade VIN, usual type and SCC was found in this group of patients. Half of patients from A + B group and none from the group C were immunocompromised.

Conclusion: Based on our data we suggest that lesions of VIN I appearance should remain interpreted as dysplastic in younger women presenting with multicentric lower genital tract squamous neoplasia and in immunodeficient patients.

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SUPRA-CLAVICULAR LYMPH NODES AND PARA-AORTIC LYMPH NODES METASTASIS IN PATIENTS WITH CERVICAL CANCER AFTER COMBINED TREATMENTS

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Background and Aims: Although many improvements had achieved in treatments for cervical cancer, recurrence seemed inevitable in some patients. Supra-clavicular lymph nodes and para-aortic lymph nodes are uncommon sites of recurrence. Routine treatments seemed helpless to these patients. We aim to investigate the clinical features of supra-clavicular lymph nodes and para-aortic lymph nodes involvement in patients with cervical cancer after combined treatments.

Methods: Five patients in our hospital, whose age ranged from 42 to 52 years, presented supra-clavicular lymph nodes and para-aortic lymph nodes recurrence from 2000 to 2006 were analyzed retrospectively. Three patients stages IbG2-3 received radical hysterectomy combined with chemotherapy and radiotherapy, one patient stage IIbG3 received hysterectomy after radiotherapy and chemotherapy, and one patient received radiotherapy combined chemotherapy for stage III adenocarcinoma of cervix. There are no evidence for supra-clavicular lymph nodes and para-aortic lymph nodes metastasis before treatments.

Results: Five patients presented supra-clavicular lymph nodes and para-aortic lymph nodes recurrence 3 to 24 months after combined treatments. Salvage chemotherapy and radiotherapy were chosen, and three patients died of such disease about 6 months later. Two survival identified by 2-[18F]fluoro-2-deoxy-D-glucose-positron emission tomography (FDG-PET) examination received intensity modulated radiation therapy (IMRT) combined with chemotherapy including one patient received g-therapy radiation.

Conclusion: Supra-clavicular lymph nodes and para-aortic lymph nodes metastasis may be one feature of recurrence for poorly differentiated cervical cancer and responsible for high rate of death. No treatments for such conditions are specific. Ideal diagnosis and combined treatments need to be explored.

PAPILLARY SQUAMOTRANSITIONAL CELL CARCINOMA OF THE CERVIX (PSTCC) - INSIGHTS FROM AN INSTITUTIONAL EXPERIENCE

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Aim: The aim of our study was to characterize the clinicopathologic features of three patients with Papillary squamotransitional cell carcinoma (PSTCC) of the cervix.

Material and Method: We reviewed the clinical data and the pathologic slides from our archival medical records. Immunoperoxidase stains for cytokeratin -20 ( CK-20), CK–14, CK-7, and p16 were performed on available tissue blocks.

Results: Two patients (43 and 42 years old respectively) were FIGO stage III B and one patient (45 y.o) was stage IB1. One patient had local recurrence and another died from the disease after 26 months. Patients were subcategorized into two groups based on mostly transitional cell differentiation (TC) or mixed differentiation (SC – TC) by light microscopy. In our study CK-20 was used as a marker for urothelial (transitional cell) differentiation, CK-14 and CK -7 as markers for squamous differentiation and p16 served as a marker for high risk HPV infection.

By light microscopy, one case showed mostly TC differentiation and two cases showed mixed SC-TC differentiation. All three cases were non- reactive for CK-20 but showed positive immunostaining for CK-7. Two cases with SC-TC differentiation by light microscopy showed positive immunostaining for CK-14 and the third with the mostly TC differentiation was non-reactive for CK-14. All cases showed 4+ cytoplasmic staining for p16. Patients were managed according to the disease stage.

Conclusions: PSTCC is considered a variant of conventional SCC carcinoma and probably shares similar clinicopathologic features with conventional SCC cancer.
evaluation still remains inaccurate which may account for the discrepancies for stage II especially for stage IIB. Clinical stage is inaccurate compared with pathologic stage, that’s the reason why we need the pathologic stage to estimate prognosis and help select therapies after surgery.

0405
CORRELATIONS OF TUMOR DIAMETERS IN CERVICAL CANCER
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Background and Aim: Tumor diameter is among the most commonly cited prognostic factor among patients with cervical cancer. This study is conducted to analyze the clinico-pathological factors that are correlated with tumor diameter in cervical cancers.

Method: A total of 155 patients treated in our hospital during last five years are retrospectively reviewed. Age, stage, tumor histology and grade, lymphovascular space involvement (LVSI), vaginal and parametrical involvement, lymph node metastasis and tumor diameter were the factors analyzed.

Results: Mean age of the patients was 53.65 (27-83). Mean tumor diameter was 3.6 cm. The tumor diameter was < 4 cm in 83 patients (53.5%) while it was ≥ 4 cm in the remaining 72 (46.5%). Tumor histology was SCC in 128 patients (82.6) and adenocarcinoma in the remaining 27 patients (17.4%). Lymphatic metastasis was encountered in 101 (65.2%), parametrical metastasis in 29 (18.7%) and vaginal metastasis in 18 patients. One hundred and eighteen (76.1%) patients had stage I disease while 37 (23.9%) patients had ≥ stage II disease. Comparison of the patients with tumors < 4 cm and ≥ 4 cm on univariate analysis showed that tumors with a larger diameter had significantly increased amount of LVSI (91.7% vs. 56.6%, p < 0.001), lymphatic metastasis (51.4% vs. 20.5%, p < 0.001), parametrical involvement (30.6% vs. 8.4%) and tumor grade (52% vs. 74.4%) to be significantly different. Multivariate analysis revealed LVSI (p < 0.001, OR = 5.09 CI:18.137) and parametrical involvement (p < 0.035, OR = 2.895 CI = 1.07-7.6). Lymphatic metastasis were near the limit but not statistically significant (p = 0.05, OR = 2.195 CI = 1.002-4.74).

Conclusion: LVSI and parametrical involvement are frequently seen in bulky cervical cancers.

0406
OVARIAN CRYOPRESERVATION TO REDUCE LONGTERM HORMONAL DYSFUNCTION ASSOCIATED WITH TREATMENT FOR ADVANCED CERVICAL CANCER
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Many young women survive cancer due to modern treatment modalities. Many of these treatments have serious harmful late effects including ovarian failure. Where transposition is of no benefit due to systemic chemotherapy, an option may be to remove ovarian tissue when toxic treatment is finished. The use of hormone replacement therapy has many difficulties; particularly in a resource-poor environment. Compliance is generally poor where access to health care is difficult. If a non-invasive procedure is available to preserve endocrine function it will improve not only quality of life but also general health.

Materials and Methods: Patients: Younger than 45 years of age with normal FSH and E2 levels with advanced squamous cervical carcinoma planned for curative chemo-radiotherapy.

Procedures: Laparoscopic oophorectomy during examination under anesthesia for cancer staging; preparation of ovarian cortical strips under sterile conditions; histological evaluation of tissue strips for metastatic disease; cryopreservation of ovarian tissue; thawing; histology of thawed ovarian tissue for evaluation of follicle survival; re-implantation; follow-up of hormonal function.

Results: Cryotherapy of ovarian tissue strips cause damage to primordial follicles which is visible on electron microscopy. These changes may not be visible on light microscopy. The damage is sub lethal and estrogen production resumes after re-implantation of tissue strips.

Conclusions: Ovarian cryopreservation may be an option for prevention of premature ovarian failure associated with therapy for advanced cervical cancer.

0407
EXTENDED RADICAL SURGERY FOR VULVAL CANCER
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Objective: To assess the outcome of patients undergoing extended surgery for advanced vulval cancers.

Methods: A retrospective review of patients with vulval squamous cell carcinomas who underwent extended radical vulval surgery at the Royal Marsden Hospital from 1963 to 2005 was undertaken.

Results: 48 patients underwent extended surgery. The median age was 65 years. 38% of patients had primary disease and 58% had recurrent disease. 11% and 60% of patients with primary and recurrent disease respectively had received previous radiotherapy. The procedures performed included exenterative surgery in 9 patients, urectrectomy in 18 patients and vaginectomy in 20 patients. Various reconstructive operators were required in 39 patients including rectus abdominis and lotus petal flaps. 4 patients also required hysterectomy.

Conclusion: The median duration of hospitalisation was 28 days and estimated blood loss was 0.5 litres. 53% of lymph nodes excised were involved. The overall short term complication rate was 54%. Lymphoedema occurred in 10 patients. There were no treatment related deaths. Adjuvant radiotherapy was required in 14 patients (29%). Tumour recurred in 28 patients (58%) at a median duration of 6 months and were mainly local (50%). Treatment for relapsed disease was surgery in 8 patients, chemotherapy in 4, radiotherapy in 5 and were palliative in the remaining patients. At the time of analysis, 25 patients were alive and 23 patients had died. The median duration of follow up was 37 months.

Conclusion: Extended surgery is an option for locally advanced disease of the vulva, with satisfactory morbidity and survival.

0408
DISCOVERY OF EPSTEIN BARR VIRUS (EBV) IN HUMAN EPITHELIAL OVARIAN CANCER PATIENTS AND FAMILY
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Background and Aim: Ovarian cancer is the leading mortality among gynecologic malignancies in the developing countries. The molecular events leading to the development of epithelial ovarian cancer are unknown. EBV is a member of the DNA herpes virus family that had been associated with epithelial malignancy. The aim of this study is to investigate the existence of EBV on epithelial ovarian cancer patients and their daughter.

Methods: Research subjects were epithelial ovarian cancer patients (n = 13), their daughter (n = 6) and healthy female who have not any relation with the patients (n = 2). Tissue samples from cancer patients were collected for histopathology examination. The presence of EBV was checked from serum samples by anti-EBV IgG immunoblots method for EBV protein (p138 KD, EBNA1, p65KD, DNase, major EA (D), VCA-p40, zebra and VCA-p18).

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Results: EBV reactive was found on 7 of 12 cancer patients (58.3%). Among 7 women those are daughters of ovarian malignancy patients, 3 cases were EBV reactive (Prevalens ratio = 1.4; 95% CI = 0.5 to 3.6). The current study showed the presence of antibody EBV protein antigen in more than half epithelial ovarian cancer patients. Interestingly, this study also found the presence of antibody to EBV protein in some of patients daughter. Almost all patients show a chronic EBV infection. This result maybe a coincidence situation, however, according to previous study, there was an increase of risk to ovarian cancer after EBV infection.

Conclusion: EBV infection was prevalence among epithelial ovarian cancer patients.

Background and Aims: The membrane compositions, especially phospholipid-fatty acid (PL-FA) and antioxidant system have been focused on carcinogenesis. Therefore, the objective was to examine the patterns of PL-FA and antioxidant status in patients with cervical intraepithelial neoplasia (CIN) and invasive cervical cancer.

Methods: Blood samples were obtained from 23 patients diagnosed as invasive cervical cancer, 32 with CIN and 41 with other benign gynecologic diseases as the control group. Compositions of serum PL-FAs, total antioxidant performance (TAP), and lipid peroxidation were assessed by the GC system and fluorometer, and compared between these 3 groups.

Results: While the EPA (eicosapentaenoic acid, C20:5ω3) + DHA (docosahexaenoic acid, C22:6ω3)/linolenic acid (C18:3ω3) ratio (ω3 product/ω6 precursor) was significantly lower in the CIN group (p < 0.0001), arachidonic acid (C20:4ω6) /linoleic acid (C18:2ω6) ratio (ω6 product/ω6 precursor) tended to be higher in patients with CIN and cervical cancer (p = 0.0862). The level of MDA was significantly higher in cervical cancer group than in CIN and control groups. The value of TAP was significantly lower in CIN.

Conclusions: In patients with cervical neoplasia, the endogenous production of DHA and EPA, as well as ω3 derivatives seems to be decreased. Since cervical cancer patients displayed higher MDA levels and lower TAP, antioxidant status also tends to be lower in this group. These significant changes in patterns of PL-FAs and antioxidant status in cervical cancer patients suggest their possible involvements in carcinogenesis, but further studies are mandatory to define the exact causal relationship.

ANALYSIS OF SERUM PHOSPHOLIPID-FATTY ACID AND ANTIOXIDANT SYSTEM IN PATIENTS WITH CERVICAL INTRAEPITHELIAL NEOPLASIA AND CERVICAL CANCER


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Methods: We reviewed the records of 191 patients with stage IB to II A cervical cancer, who underwent radical hysterectomy and lymphadenectomy without lymph node metastasis, parametrial extensions, and involvement of surgical margins between 1994 and 2005. The effects of various histopathologic findings on disease-free survival were evaluated, and prognostic scores for risk factors were calculated based on regression coefficients.

Results: Nine patients had recurrent diseases. In univariate analysis, large tumor size (> 4 cm) and deep stromal invasion (outer third) were significant prognostic factors for the recurrence (P = 0.003; P = 0.002, respectively). Cell types, close vaginal margin (≤ 5 cm), and lymph-vascular space invasion were not statistically significant. In multivariate analysis, deep stromal invasion was the only independent prognostic factor (RR = 11.7, P = 0.028). Scores were given from 0 to 2 with following variables: large tumor size, close vaginal margin, and deep stromal invasion. Cut-off point was determined as 2 from ROC curve and patients were classified as low (< 2) and high (> 2) score groups. There was significant difference in disease-free survival between two groups (P < 0.0025).

Conclusions: Deep stromal invasion is an independent prognostic factor in patients with node-negative stage IB to II A cervical cancer. The prognostic scores may provide useful information about the adjuvant therapy and the prognosis.
ROLE OF [18F]FLUORO-2-DEOXY-D-GLUCOSE POSITRON EMISSION TOMOGRAPHY IN RE-RECURRENT CERVICAL CANCER
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Cervical cancer patients with histologically documented re-recurrence after curative salvage therapy or unexplained tumor marker elevation (negative computed tomography and or magnetic resonance imaging [CT-MRI]) proven to be a re-recurrence when a further attempt for cure (or control of cancer) appeared feasible, were enrolled. Lesion status was determined from pathology or clinical follow-up for at least 12 months. Management decisions were recorded with CT-MRI alone and incorporating [18F]fluoro-2-deoxy-D-glucose positron emission tomography (FDG-PET), respectively. The benefits calculated were based on clinical impact because of the FDG-PET findings. Cox proportional hazards model was used to select independent prognostic covariates. Of the 26 patients who were eligible for analysis, 12 (46.2%) patients had positive impacts due to PET. Squamous cell carcinoma (P < 0.029), re-recurrence at distant metastasis only (P = 0.012), and level of squamous cell carcinoma antigen < 4 ng/mL (P = 0.005) were significantly associated with better survival. A scoring system using these covariates defined 3 distinct prognostic groups (P = 0.0001). Patients with score 0 had a 36-month cumulative survival rate of 80%. Using this prognostic scoring system, FDG-PET may facilitate selecting appropriate management for the individual patient with re-recurrent cervical cancer.

ARRAY COMPARATIVE GENOMIC HYBRIDIZATION ANALYSIS OF CERVICAL INTRAEPITHELIAL NEOPLASIA AND CANCER
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Objective: In this study, the expression patterns by a genome-wide array based comparative genomic hybridization (array-CGH) have been compared.

Material and Method: We analyzed 60 cases of CIN I, II, III and cervical cancer paraffin tissues that were microdissected. The BAC array was consisted of 1,440 human BACs (www.macrogen.co.kr, Macrogen, Korea).

Results: BAC clone loss in CIN I, II, III and cancer is 8.4%, 9.0%, 14.4% and 16.3%, and gain is 2.4%, 3.7%, 4.5% and 7.8% respectively. Among BAC clone loss CIN II increased 7.7% than CIN I, CIN III 12.2% than CIN II, cancer 13.9% than CIN III. BAC clone loss gradually decreased from CIN I to cancer 10.4%. CIN I is 6.5% higher expression than CIN II, CIN II 6.1% than CIN III and CIN III 8.8% than cancer. Among BAC gained clone CIN I increased 3.3% than CIN I, CIN III 4.2% than CIN II, cancer 7.0% than CIN III. BAC gained clone gradually increased from CIN I to cancer was 0.4%. CIN I was 1.6% higher expression than CIN II, CIN II 2.6% than CIN III and CIN III 2.8% than cancer.

Conclusions: Using Array-CGH, genomic alterations related to CIN I, II, III and cervical cancer carcinogenesis were identified to determine whether the chromosomal imbalances occurs according the CIN I degree and cancer. The high resolution of array-CGH combined with human genome database would give a chance to find out possible target genes present in the gained or lost clones.

GENOTYPING OF HUMAN PAPILLOMAVIRUS WITH MULTI-FLEX LIQUID BEAD ARRAY SYSTEM
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Objectives: The multiplex liquid array system was applied for sensitive, fast and reproducible genotyping of 28 human papillomavirus (HPV) types.

Materials and Methods: A primer set was designed for the amplification of LI region of HPV. The probe sequences of the bead array were optimized in length and melting temperature for high risk group (16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73, 82) and low risk group (6, 11, 40, 42, 43, 44, 45, 54, 61, 70, 72, 81). GAPDH and 5' end of L1 sequences were fabricated for PCR control and HPV positive control (called any sequence).

Results and Conclusion: We compared the efficiency of HPV genotyping with multiplex liquid array system and DNA Chip. Total 248 cases of boiled cervical swab samples which previously typed by DNAChip were compared. Two methods have the same results in 55% (136 samples/248 samples) and showed totally different results in 20% (50 samples/248 samples). About 25% (62 samples/248 samples) of the results showed partial agreement between two methods that come from multiple infections. Owing to the presence of any sequence, the detection rate of the multiplex system is higher than any other current system regardless of subtypes. GAPDH sequence reveals the PCR re-action efficiency and decrease the false negative rate very sharply. In over all, multiplex liquid array system can be used in detection and genotyping of HPV in rapid, cost effective and accurate way.

UTERUS TRANSPLANTATION IN THE SHEEP - RESEARCH TOWARDS RETERIALIZATION OF CERVICAL CANCER PATIENTS OF FERTILE AGE
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Background: Young women treated with radical hysterectomy for early stage cervical cancer have good long-term prognosis. Their desire to bear a child would be possible if uterine-transplantation was feasible. Models for uterine-transplantation have been developed in rodents, but a larger animal model with uterine size similar to the human would be beneficial. This study presents a newly developed model for orthotopic autotransplantation of the sheep uterus.

Method: Female sheep were primed with vaginal medroxy progesterone acetate to induce estrus. The sheep was chosen according to size, uterine position, and at the end of estrus. Uterus transplantation was performed under general anesthesia. The transplantation was performed by end-to-side vascular anastomosis to the external iliac vessels. The effects of uterine reperfusion were assessed by measurements of pO2, pH and base excess. The graft was observed for reperfusion and viability, including revascularization. The sheep was killed after the transplantation. Histologic and immunohistochemical examinations were performed on the transplanted uteri to detect any signs of rejection.

Results: Reperfusion was observed in the transplanted uterus. The pO2 of the uterus venous blood was depressed after 15 min of
Some background information and aims of the study are provided, along with details on the methodology used. The results are presented in a clear and concise manner, with a focus on the significance of the findings. The conclusions are drawn based on the data presented, highlighting the importance of the study in the field of cervical cancer prevention and management. The document also briefly discusses the role of the sheep uterus in research and its potential implications for human health.
CRT. Tumor oxygenation (HP5) and interstitial fluid pressure (IFP) were measured prior to and two weeks after celecoxib administration. The median follow-up time was 2.7 years (range 1.1-4.4 years).

**Results**: The most common acute G3/G4 toxicities were hematological (4/31, 12.9%) and gastrointestinal (5/31, 16.1%) largely due to chemotherapy. Late G3/G4 toxicity was seen in 4/31 patients (13.7% actuarial risk at 2 years), including fistulas in 3 patients (9.7%). Within the first year of follow-up, 25/31 patients (81%) achieved complete response (CR) of whom 20 remained in CR at last follow-up. Following two weeks of celecoxib administration prior to CRT, the median IFP decreased slightly (median absolute: -4.6 mmHg, p = 0.09, relative: -21%, p = 0.07), whereas HP5 did not change significantly (absolute increase 3.6% p = 0.51, median relative increase 11%, p = 0.27). No significant associations were seen between the changes in HP5 and IFP and response to treatment (p = 0.2, relative HP5 change and p = 0.14, relative IFP change).

**Conclusions**: Celecoxib in combination with definitive chemoradiotherapy (CRT) is associated with acceptable acute toxicity, but higher than expected late complications. Celecoxib is associated with a modest reduction in the angiogenic biomarker IFP but this does not correspond with tumor response.

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**0420**

**NERVE SPARING RADICAL Hysterectomy (NSRH) for Cervical Cancer (CC). PRELIMINARY RESULTS**


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**Objective**: To present the surgical technique, its feasibility, results and survival.

**Materials**: 73 pts. stages Ib1-Ib2 CC underwent NSRH between 5/02 and 10/05. Stages Ib2- Iib received neoadjuvant chemotherapy. Pts were submitted to a standardized questionnaire and urodynamic evaluation before and after surgery. Surgical technique included four steps: 1- dissection of the hypogastric nerve in the sacrouterine ligament. 2- Dissection of the inferior hypogastric plexus in the lateral parametrium. 3- Mobilization in the vesicouterine ligament followed by anterior ligament transection. 4- Transection of the ligaments. Follow-up ranged 5 to 41 months. Results were compared to a historic control group (n = 72) with no NSRH.

**Result**: Nerve sparing was performed in all cases. In 5/73 cases (6.8%) urodynamic evaluation was altered vs. 26.3% (19/72) in the control group (p < 0.003). No differences in constipation were observed. In the NSRH group no differences were found between pre and postsurgical urodynamic evaluation. A patient died (1.36 %) by intercurrent disease, and 2 (2.7%) by CC; 3 pts (4.1%) relapsed locally and 2 (2.7%) developed pelvic and distant recurrences in the NSRH group. Disease free survival was 93.1% and overall survival 95.9%. No differences in the surgical specimens were verified between both groups.

**Conclusion**: The NSRH is feasible, with low complications and morbidity, without diminishing survival.

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**0421**

**THE AETIOLOGY AND INCIDENCE OF LOWER LIMB LYMPHOEDEMA FOLLOWING TREATMENT FOR VULVAL CANCER**

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**Background and Aims**: Vulval cancer is an uncommon tumour with a generally good prognosis. Despite this, women who have vulval cancer frequently experience physical and psychological problems as a result of their diagnosis and treatment. Lower Limb Lymphoedema (LLL) is a major source of morbidity for women who have had treatment for vulval cancer and there remains a paucity of research on the subject. A Master of Cancer Nursing Thesis aims to determine the aetiology and incidence of LLL following treatment for vulval cancer.

**Methods**: A retrospective design will be utilised to determine the incidence of LLL in women following treatment for vulval cancer between January 1991 and December 2005 in an Australian Gynaecological Oncology unit. Database and medical record review will determine demographic details, cancer histology, treatment type and lower limb status.

**Results**: A sample of 117 women treated for vulval cancer will be analysed. The number diagnosed with LLL will be examined, as well as the time to diagnosis following treatment. Those women most at risk of developing LLL will also be established.

**Conclusions**: It is anticipated that the results will illustrate the importance of LLL education for women undergoing treatment for vulval cancer, as well as health professionals. The need for further research into LLL will also be established.

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**0422**

**STUDY OF SURGICAL TREATMENT OF CERVICAL CANCER: CLINICAL ANALYSIS OF 1342 CASES**

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**Objective**: to summarize 33 years' experience with surgical treatment of cervical cancer and to clarify the changes in the indication of radical hysterectomy and to discuss the improvement of the surgical procedure.

**Methods**: The clinical data of 1342 cases undergone radical hysterectomy in 2 university hospitals from 1968 to 2001 was separated into 3 phases: 1968-1978 (A), 1979-1988 (B), and 1989-2001 (C) and retrospectively analyzed. The patients' age at diagnosis, the pathological types and treatment modalities during the 3 phases were compared.

**Results**: The mean age of incidence was 53 years old in phase A, while it was 42 years old in phase C. The ratio of squamous cell carcinoma to adenocarcinoma was 8:1 to 4:1 from A to C. The operative technique was improved by less operating time, hemorrhage and complications from A to C. During phase C, most patients with stage Ib2 –III tumors received neoadjuvant chemotherapy followed by surgical procedure which did not result in increased risk. The 5-year survival was improved from phase A to phase C.

**Conclusion**: The ages of cervical cancer patients became younger. Radical hysterectomy alone or neoadjuvant chemotherapy followed by radical hysterectomy should be the best choice in early stage younger cervical cancer patients. The surgical technique need to be further improved.

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**0423**

**A PHASE-I–II TRIAL OF IRINOTECAN AND CISPLATIN AS CONCURRENT CHEMO-RADIOTHERAPY FOR PATIENTS WITH CERVICAL CANCER: KCOG 0328 TRIAL**

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Background and Aims: Though concurrent chemo-radiotherapy (CCRT) based on cisplatin (P) is recommended in local advanced cervical cancer (LACC), there is no standard regimen. We conducted a phase I-II trial of irinotecan (CPT) and P as CCRT.

Methods: Eligibility criteria was prescribed as follows: histologically confirmed primary LACC, above FIGO stage III, age 16-75 years, PS 0-1, adequate essential organs function, and written informed consent. Radiotherapy consisted of external beam 50.4Gy/28Fr and brachytherapy 18-24Gy/3-4Fr. The doses of chemotherapy were set up as follows: dose level (DL) 0; CPT 20mg/m², P 30mg/m², DL1; CPT 25mg/m², P 30mg/m², DL2; CPT 30mg/m², P 30mg/m², and DL1 was chosen the starting level. Chemotherapy was carried out weekly 5 cycles concurrently with radiotherapy.

Results: There were no significant differences in the percentage of high grade lesion (66.7% vs 62.8%), size of the LLETZ specimen (2.14 g vs 1.94 g) and percentage of positive high vaginal swab culture (15.4% vs 18.2 %) in the two groups. With comparable background characteristics, the study and control group did not show any significant differences in the mean scores for bleeding, vaginal discharge and pain (t-test ) and there was no difference in the mean no. of additional medical consultations required in the two groups.

Conclusion: The use of an antimicrobial does not affect the complication rate of LLETZ. The routine use of prophylactic antimicrobials is not justified.

Associations Between High-risk Human Papilloma Virus and Cervical Intraepithelial Neoplasia

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Objective: The purpose of this study is to verify association between high-risk human papillomavirus viral load and precursor lesion of cervical cancer using Hybrid Capture II (HCII) testing.

Materials and Methods: We reviewed the chart of 129 women with ASCUS or LSIL cervical smear who underwent high risk HPV test and cervical biopsy from January 2004 to December 2004. HCII testing was used to detect HPV DNA. Viral load was measured by light measurements expressed as relative light unit/cut off (RLU/CO).

Results: The HPV viral load was classified for four groups according to RLU/CO: negative (RLU/CO <1), low viral load (1 ≤ RLU/CO < 10), moderate viral load (10 ≤ RLU/CO < 100), high viral load (RLU/CO ≥ 100). We compared pathologic results (chronic cervicitis, CIN I, CIN II and CIN III) according to HPV viral load.

Conclusion: We can conclude that a clear association between viral load of HPV DNA was determined.
CIN. A patient with high HPV DNA load should be evaluated and treated aggressively.

0427

CERVICAL CANCER AND PREGNANCY
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Despite low incidence of the combination of cervix cancer and pregnancy, this problem is still pressing. Patients with preinvasive cancer in I-term pregnancy are subjected to abortion with conization of cervix, in the II-IIIA terms of pregnancy conization of cervix is performed in the case of invasive cancer Wertheim’s operation is usually conducted. Patients in their late term pregnancy are subjected to cesarean section, what is followed by high supravaginal amputation of uterus and radical hysterectomy. Of 20176 patients with cervical cancer subjected to radical hysterectomy in 1964-2005, cervical cancer in combination of pregnancy was diagnosed in 33 (1.5%) women (stage I - 24 (72%), stage II - 5 (15.2%), stage III - 4 (12.1%); 93.9% of patients were in their I-II terms of pregnancy. 5-year survival of patients subjected only to surgery totaled 83.3%, while in the case of combined therapy - 60%. 29% of patients were 30 years old and younger. Pregnancy promotes early detection of cervical cancer, but it does not encourage the aggression of malignant tumor growth. 5-year survival of patients with III stage cervical carcinoma totaled 51.2%, while that of the patients with the combination of pregnancy and cervical carcinoma - 50%. The level of 5-year survival of patients in their I-term pregnancy was lower than in the II and III terms. Pregnancy is not a contraindication for the performance of radical hysterectomy.

0428

IMAGE-BASED 3-D INTRACA VITARY BRACHYTHERAPY WITH INTEGRATED SIMULTANEOUS IMRT BOOST FOR CANCER OF THE CERVIX: NOVEL APPROACH FOR IMPROVING TUMOR DOSE COVERAGE
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Background/Aim: Our recent image-based treatment planning (TP) study confirmed that the pear-shaped dose distribution of conventional HDR brachytherapy (C-HDR) often fails to cover the entire gross tumor volume (GTV), especially in large volume tumor. This presentation is to evaluate our novel approach which maintains conventional HDR brachytherapy but adding simultaneous IMRT boost to the area of under dose by ICBT.

Methods: Optimized (O)-HDR, IMRT, and C-HDR/IMRT were analyzed by dose volume histogram. CT and MRI images of the pelvis were done with plastic HDR applicators in place. GTV and organs at risk (OARs) were outlined on the CT images. For the C-HDR/IMRT technique, the IMRT boost plan was subsequently optimized based on the HDR dose to compliment the dose coverage of CTV. The percent volume receiving 95% of prescription dose was used to evaluate GTV coverage, and the minimum doses in 2.0 cm3 volume receiving the highest dose D2 was calculated to compare doses to OARs.

Results: C-HDR failed to provide adequate tumor coverage (53% average tumor coverage). The O-HDR, IMRT, and C-HDR/IMRT techniques yielded substantially improved tumor coverage. However, the O-HDR technique resulted in unacceptably high average D2 dose to bladder, rectum and bowel. The IMRT and C-HDR/IMRT boost plans both provided sufficient sparing to the bladder, rectum, and bowel. However, C-HDR/IMRT technique provided significantly higher integral tumor dose than IMRT alone.

Conclusion: Our novel approach, integrating C-HDR with simultaneous IMRT boost, provides excellent tumor coverage while maintaining conventional brachytherapy dosimetry with reasonably low doses to OARs.
0431
THE PRESENCE OF BILATERAL POSITIVE NODES IN SQUAMOUS CELL CANCER (SCC) OF THE VULVA IS NOT AN INDEPENDENT PROGNOSTIC VARIABLE FOR DISEASE SPECIFIC SURVIVAL
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Background: In 1988 bilateral positive groin nodes was introduced into the FIGO staging system for vulvar carcinoma as stage IV when compared with ipsilateral involvement as stage III. It is not clear whether this variable is independently prognostic or if it is merely a reflection of the presence of multiple positive nodes. The question is, whether it is justified to assign patients with bilateral positive nodes to a higher stage (IVA) than patients with multiple ipsilateral nodes (III).
Aim of the study: To determine the independent prognostic value of the variable “bilateral positive nodes” on disease specific survival (DSS).
Patients and Methods: Data on age, treatment, vaginal extension, tumor diameter, number of positive nodes, laterality of the nodes, stage and extracapsular extension of 161 consecutive patients, treated with curative intent, with stage III or IVA were retrieved. All these variables were analysed in a univariate and multivariate manner with endpoint disease specific survival.
Results: In the univariate analysis all nodal parameters (number of positive nodes, extra capsular extension, laterality) and stage had a significant impact on DSS. In the multivariate analysis bilaterality did not show an independent impact with a hazard ratio of 1.4009 (range 0.7747-2.5335). Only extra capsular extension and > 2 positive nodes were independent predictors for survival.
Discussion/Conclusion: Bilaterality of positive groin lymph nodes is not an independent prognostic variable for DSS. It is suggested that number of positive nodes and extra capsular extension may be used in the staging system rather than laterality.

0432
LYMPH NODE MAPPING AND SENTINEL NODE DETECTION IN EARLY STAGE OF CERVICAL CARCINOMA WITH COMBINATION OF 99M TC-NANOCOLLOID AND PATENT BLUE
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Background and Aims: The aim of the study is to analyse the feasibility of intraoperative sentinel lymph node mapping using gamma detection probe and blue dye (BD) in patients undergoing radical hysterectomy for treatment of cervical cancer (CC).
Methods: 77 patients with CC were included into the study in the period from May 2004 to February 2005. Patients were divided into three groups according the tumor volume. 50 MBq of 99m Tc-labeled nanocolloid was injected intracervically 1-2 hours before an operation and after pelvic exploration BD was injected. SLN were identified intraoperatively by using a handheld gamma detection probe after marking of lymphatic vessels with BD. SLN were histologically and immunohistochemically analysed.
Results: A total number of 2 764 lymph nodes with an average 36 and 202 SLN with an average 2,6 were identified. The SLN detection rate was 94.8% per patient and 85.7% for the side of dissection and depends on the tumor volume. SLN were identified in obturator area in 48%, in external area in 15%, in common internal and iliac area in 9% and in paraaortic and parametral area in 9%. Metastatic disease was detected in 31 patients (40,0%). False negative rate was 3%, sensitivity and negative predictive value calculated by patient were 92.3 % and 95.2 %.
Conclusions: Intraoperative lymphatic mapping using combination of technecium-99-labeled nanocolloid and BD are feasible, safe and accurate techniques to identified SLN in stage IIA-IIB of CC. This research is supported by the grant IGA MGH CR NR 81443–2004.

0433
HPV16 LONG PEPTIDE VACCINATION IN HPV RELATED DISEASE: SAFETY, IMMUNOGENICITY AND CLINICAL EFFICACY
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Background: In animal models we have shown that a vaccine consisting of long HPV16 E6 and E7 peptides covering the entire sequence is capable of eradicating pre-malignant lesions in rabbits and HPV16 + tumours in mice. We have now assessed the safety, immunogenicity and clinical efficacy of this vaccine in a phase I/II trial in humans.
Methods: At the time of this report 28 patients with advanced and 5 with low stage cervical carcinoma and 7 with VIN III were injected subcutaneously four times.
Results: Overall the vaccine was well tolerated. Apart from moderate tenderness, swelling and redness of the skin at injection site, the vaccination caused fever for a short period. Overall, no toxicity > grade II was observed. Vaccination resulted in the induction of strong HPV16-specific type 1 cytokine-producing T-cell responses in all patients. Moreover, these induced T-cells were able to migrate to sites were the antigen was present. Clinical efficacy has been measured in the 7 VIN patients only: 4 patients were without any symptom, histological complete response occurred in 3 patients in whom HPV 16 DNA could no longer be detected.
Conclusions: These data suggest that our vaccine concept is safe, induces a strong immune activation even under sub-optimal clinical conditions and shows clinical response in 3 of 7 VIN patients.

0434
FDG-PET TO ASSESS LYMPHATIC SPREAD IN CERVICAL CANCER
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Background and Aims: To evaluate the accuracy of FDG-PET to predict pelvic and para-aortic node involvement in cervical cancer.
Methods: From March 2004 to May 2006, 55 FDG-PET scans were performed in patients with cervical cancer FIGO IB1 to IVA scheduled to undergo pelvic and/or para-aortic lymphadenectomy. The pathologic status of each lymphatic basin (right pelvic, left pelvic or para-aortic) was compared to FDG-PET images. Sensitivity, specificity, predictive values and accuracy of the technique for lymph node involvement were calculated.
Results: 53 pelvic basins were cleared out, 7 were involved. The sensitivity, specificity, positive and negative predictive values and accuracy of FDG-PET for pelvic node involvement were respectively 57.1%, 100%, 100%, 93.8% and 94.3%. For para-aortic node

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involvement (31 basins, 7 involved), these were respectively 85.7%, 95.8%, 85.7%, 95.8% and 93.5%. When considering all the basins cleared out (right pelvic, left pelvic and para-aortic : 84 basins, 14 positive), specificity, sensitivity, positive and negative predictive values and accuracy of the technique were 71.4%, 98.5%, 90.9%, 94.5% and 94.0%, respectively. Information given by the 55 FDG-PET scans on the lymph node status subsequently surgically explored was accurate in 50 cases (90.9%).

**Conclusions:** FDG-PET appears to be the most relevant imaging technique so far to explore the lymphatic spread of cervical cancer. However, the 57-85% sensitivity and 9% false positive risk make lymphadenectomy still irreplaceable.

**0435**

**CONCURRENT INTRAARTERIAL CHEMOTHERAPY (IA-CCRT) FOR STAGE IIIb-IVA CERVICAL CARCINOMA - A PRELIMINARY STUDY**

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**Background and Aims:** Although concurrent chemoradiotherapy has been recently recommended, treatment of stage IIIb and IVA uterine cervical carcinoma seems to be still controversial. In order to achieve higher response rate, we conducted preliminary study of concurrent intraarterial chemotherapy with radiotherapy (ia-CCRT) for stage IIIb-IVA cervical cancer patients.

**Methods:** Thirteen previously untreated patients of FIGO stage IIIb-IVA squamous cell carcinoma of uterine cervix (IIIb: 10, IVA: 3) received ia-CCRT. The patient age was from 25 to 75 (mean: 52.9). Basically patients were given two times of ia-chemotherapy before and during whole pelvic radiotherapy with 3 weeks interval. Chemotherapy consisted of bilateral internal iliac artery infusion of CDDP, 5-FU, and MMC (or bleomycin). Tumor size was measured two dimensionally with pelvic MR before and just after ia-CCRT. Serum levels of SCC were also evaluated before and after the therapy.

**Result:** All of the patients were eligible. The tumor size was markedly reduced (86%-100%, mean 97.6%) in all cases, and complete response was observed in 61.5% (8/13). Pretreatment mean serum level of SCC was (7.7-118ng/ml), and in all cases it decreased after ia-CCRT (0.8-13.8ng/ml, mean 3.0). Severe side effect was not observed. Two stage IIIb and one stage IVA patient died for the disease, and the rest of the patients are alive.

**Conclusion:** In our preliminary study, initial response rate of ia-CCRT was 100% including 61.5% of CR. Although the local disease could be highly controlled with this method, the long term prognosis should be further evaluated.

**0436**

**ENHANCEMENT OF CISPLATIN-MEDIATED CHEMOSENSITIVITY IN HUMAN CANCER CELL**


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**Background and Aims:** We have examined the combined anticancer effects of cisplatin and berberine, a main component of Coptidis Rhi- zoma, against the cervical cancer cell line in vitro, and to elucidate underlying molecular mechanism.

**Methods:** The treatment of the HeLa cells with 5uM of cisplatin combined with 50 ug/ml of berberine for 24 hr showed a clear synergistic effect. To clarify that the combination of cisplatin and berberine possesses synergistic cytotoxicity, was evaluated by the use of either morphological observation or flow cytometric analysis (FACS) in term of induction of apoptosis. We also investigated the alterations in intracellular reactive oxygen species (ROS) in response to cisplatin and berberine.

**Results:** The cells treated with a combination of the two drugs showed a significant increase in intracellular ROS levels compared to cells treated with only cisplatin or berberine. The combined treatment with the two drugs also markedly decreased the cell viability ability in HeLa cells. The cytotoxicity of the combination was revealed as being apoptosis characterized by chromatic condensation; the DNA fragmentation by agarose electrophoresis as well as nuclear fragmentation and the loss of mitochondrial membrane potential in HeLa cells. The apoptotic cytotoxicity was accompanied by the activation of caspase-3 protease as well as an increase in expression of Bax proteins in HeLa cells. Also, the combined treatment decreased the expression of bcl-2, bcl-x/L protein.

**Conclusions:** This results suggest that the combination of cisplatin and berberine induced apoptosis in HeLa cells, by the mechanism involving ROS generation and activation of apoptosis signaling pathway.

**0437**

**CANCER-DERIVED MEDIATORS DOWN-REGULATE THE FUNCTION OF TUMOR-INFILTRATING LYMPHOCYTES**

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**Background and Aims:** Depressed immune responses have been frequently observed in cancer patients despite the presence of tumor-infiltrating lymphocytes (TILs). The expression of Interleukin-2 receptor alpha (IL-2Rα) on activated TILs from cervical cancer was down-regulated. Because IL-2Rα plays a pivotal role in the development and propagation of functional T cells, depressed expression may result in poor function of tumor-reactive cytotoxic lymphocytes.

**Methods:** For elucidating the mechanism responsible for down-regulation of IL-2Rα, a coculture model of in vitro mixed autologous lymphocytes and tumor cells was established, and the kinetic expressions of cytokines and receptors on activated T cells were evaluated.

**Results:** Flowcytometry analysis demonstrated that cervical cancer cells down-regulated IL-2Rα expression on encountered T cells in a restricted manner. Competitive RT-PCR showed that the amount of IL-2Rα mRNA in TILs-derived CD8+ T cells was compatible with that in the corresponding activated CD8+ T cells, about 100-fold the expression of corresponding non-stimulated CD8+ T cells. Protein inhibition assays showed that inhibitors of metalloproteinase (MMP) abrogated the cancer-mediated IL-2Rα proteolytic process. Further in vitro studies showed that MMP's mediate expression of IL-2Rα and down-regulates the proliferative capability of cancer-encountered T cells.

**Conclusions:** We demonstrate here for the first time that cervical cancer cells can induce proteolytic cleavage of IL-2Rα on activated T cells and that MMP-inhibitors can block the proteolytic process. These novel findings shed new light on the understanding of molecular mechanism of tumor-mediated immunosuppression and provide a possible therapeutic potential for patients with cervical cancer.
Purpose: Adequate management of the groin nodes with groin node dissection (GND) is considered the standard of care in vulvar cancer. The purpose of this study is to describe the patterns of management of carcinoma of the vulva in the province of Ontario and more specifically, the rate of GND.

Methods: The Ontario Cancer Registry was used to identify incident cases of vulvar cancer between 1994 and 2003. These cases were linked to provincial administrative datasets of medicare claims and hospital discharge abstracts. Therapeutic procedures in the year after diagnosis were described.

Results: A total of 978 cases were included in the cohort. 62% of patients were managed with surgery alone, 15% with surgery and radiation, and 6% with surgery, radiation and chemotherapy. No treatment was identified in 10%. 62% (58-65% 95% CI) of patients having surgery had a GND (unilateral or bilateral). Age and co-morbidity were similar in patients who did and did not receive GND. For patients managed by a gynecologist 68% had vulvar surgery + GND, 26% had vulvar surgery alone. For general gynecologists the rates were 42% and 57% respectively.

Conclusion: While a benchmark rate for GND is unknown, the rate here observed appears to be low. The proportion of surgical patients where GND may not be indicated because of <1mm invasion is likely less than 10%. Possible explanations for the low rate of GND take in our ambulatory setting to explore how well we were able to identify sexual issues after a cancer diagnosis.

Methods: Interviews were conducted with oncologists (n = 10), nurses (n = 10), social workers (n = 10) and radiation therapists (n = 5) to explore their perspectives regarding the approaches they used in their daily practice to address patients’ sexual concerns. Interviews were also conducted with 30 cancer patients who shared their perspectives about talking with patients about sexual concerns.

Results: For health care professionals, discussion with patients about this topic occurred in relation to informed consent procedures or questions raised by patients. The majority of health care professionals indicated they had very few conversations with patients about the impact of cancer on sexuality and often waited for patients to raise the topic. Patients confirmed that cancer had evoked concerns regarding sexuality. The barriers patients experienced in raising the topic included: comfort with the topic, rapport with the professional, and thinking the professional was too busy or not interested in this concern.

Conclusion: Innovative approaches are needed to ensure appropriate assessment and referral occurs for cancer patients’ concerns regarding sexuality.

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was designed to compare overall survival of patients with SCNEC to those with squamous cell carcinoma of the uterine cervix (SCC).

**Methods:** The study design was a retrospective, matched, case-controlled study (ratio SCNEC:SCC, about 1:2). Women with FIGO stage IB SCNEC, treated with radical hysterectomy, were compared with those with SCC treated with comparable strategy; at 14 tertiary medical centers in Korea from 1997 to 2003. The two groups were compared using Pearson's chi-square test, linear by linear association or Student's t-test. Overall survival of patients was evaluated using Kaplan-Meier method and log-rank tests. Significance level for all analyses was 0.05.

**Results:** One hundred forty-eight patients (52 SCNEC - cases, 96 SCC - controls) were analyzed. There was no difference in age between the two groups (mean age - Cases; 46.5, controls; 46.5, p = 0.997). And, there was no significant difference in lymph vascular space invasion (p = 0.21), lymph node metastasis (p = 0.69), positive resection margin (p = 0.35), depth of stromal invasion (p = 0.78) and invasion of the parametrium (p = 0.68) between two groups. However, patients with SCNEC underwent more frequent adjuvant therapy than those with SCC (p = 0.00). The overall 5-year survival rate for patients with SCNEC and SCC in FIGO stage IB was 48% and 81%, respectively (p = 0.0001).

**Conclusion:** SCNEC is an aggressive tumor and survival is poor regardless of multimodal treatment than SCC.

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**0442 CHEMORADIATION WITH PACLITAXEL/CARBOPlatin IN HIGH-RISK Cervical Cancer Patients After Radical HystereCTomy: INTERIM RESULTS OF A MULTICENTER PROSPECTIVE KOREAN STUDY (KGOG-1001)**

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**Background and Aims:** This study was to evaluate disease free survival and to determine the toxicity with chemoradiation with paclitaxel/carboplatin in patients with high risk cervical cancer after radical hysterectomy.

**Methods:** Patients with radical hysterectomy for cervical cancer, with at least one high risk characteristic (metastasis to pelvic lymph nodes (LNs), invasion of parametrial tissue (PMs), positive vaginal resection margin) were administered paclitaxel 135 mg/m², carboplatin AUC = 5 every 3 week as adjuvant treatment to together with radiation therapy.

**Results:** Seventy-one women were enrolled. Eligibility criteria included 45 patients (63%) with LNs, 28 (39%) with PMs, and 9 (13%) with positive surgical margins. Median age was 49 (range: 26-80).

Sixty-two patients completed protocol treatment. Of 211 chemotherapy cycles administered, grade 3 or 4 neutropenia occurred in 85 (40%) and the majority were transient. Dose reductions were in 7 cycles due to prolonged (> 4 days) neutropenia (6), and elevated liver enzyme (1). Two patients had febrile neutropenia. Fourteen patients experienced grade 3 or 4 non-hematologic toxicities: 1 sensory neurotoxicity, 2 fatigue, 4 diarrrhea, 3 allergic reactions, 2 genitourinary, 2 hepatic. Nine cycles were delayed (< 2 weeks) for neutropenia (4), diarrhea (4), general weakness (1). With a median follow-up time of 17.4 months, recurrences were in 5 patients, 2 distant lung metastasis and 3 local paraaortic recurrences (DFS: 92%).

**Conclusion:** Concurrent chemoradiation with paclitaxel/carboplatin is well tolerated and appears effective in early stage cervical cancer patients with high risk factors.
Results: Thirty-six patients (median age, 54 years) were diagnosed with stage IBv CC. The median overall survival and progression-free survival were 3.8 and 11.1 months, respectively. Four patients underwent hysterectomy. Another 13 patients received primary chemotherapy, 17 received primary radiotherapy, one received immunotherapy, and the remaining patient refused therapy. Of the 21 patients receiving chemotherapy, 13 were primary cases, 7 were resistant/refractory cases, and 1 was a postoperative adjuvant case. In univariate analysis, performance status (PS) and no chemotherapy were considered poor prognostic factors, respectively. In multivariate analysis, PS (P = 0.002 hazard ratio: 2.649) and no chemotherapy (P = 0.044 hazard ratio: 4.122) were independent prognostic factors of survival, respectively.

Conclusions: Stage IBv CC is still a poor prognosis. PS and no chemotherapy are reported to be poor prognostic factors for survival in patients with stage IBv CC. Chemotherapy for this stage is considered an effective strategy.

Objective: To evaluate management and cost of follow-up of women with an abnormal Pap result in Australia (Aus) and England & Wales (E&W).

Methods: In each country, retrospective chart reviews of 600 women with follow-up following an abnormal Pap result during 2002. The study population was stratified to include a minimum of subjects per category: 35% mild, 25% moderate, 25% severe dyskaryosis, and 15% cervical cancer. Unit costs for treatments were calculated from country-specific cost databases. Comparison between countries on the basis of age distribution; correlation between cytology and histology; resource use and cost per histology group.

Results: Overall average age of patients in Aus and E & W was 35y and 31y respectively. Patients with cytology for cancer were on average 50y old. Proportion of patients in each cytology group was: mild 39% vs. 46%; moderate 26% vs. 26%; severe 28% vs. 25%; cancer, 6% vs. 3% in Aus & E & W respectively. Negative evaluations in Aus and E & W after first inspection and/or biopsy were 14% and 33% and cancer cases seen and confirmed were 13% and 10% respectively. The correlation between cytology and histology findings in Aus was 0.61 vs. 0.54 in E&W. Resource use & cost distribution per stage shows a treatment pattern with lower variation in Aus vs. E & W.

Conclusion: More accuracy and less cost variation is observed in Aus vs. E & W for managing women with a positive Pap smear. This finding could partially be explained by the difference in age target group for starting the screening of cervical cancer.

Background and Aims: Experience in new surgical techniques is usually measured by numbers (quantity) instead of competence (quality). OSATS has been proven a reliable and valid method of assessing surgical competence in residency programs. A total laparoscopic hysterectomy (TLH) is an advanced laparoscopic technique of which most complications occur during the learning curve.

In a pilot study, OSATS was introduced to evaluate the competence of gynecologists while learning a TLH from an experienced laparoscopist.

Methods: A multi-center, prospective, feasibility study was started in January 2005. Each TLH is performed according to a standardized protocol. A visiting experienced laparoscopist assists and supervises the gynecologist while performing a TLH. Technical skills are assessed after each procedure using OSATS. A minimum score of four on each item (total of seven items) was considered a ‘pass grade’, evaluated at two independent procedures.

Results: Currently eleven gynecologists, in seven hospitals, participate in this study. Five gynecologists are considered to be ‘competent’ to perform a TLH according to two consecutive OSATS scores of at least 28 points. They have since performed a total of fourteen TLH’s without assistance of the visiting laparoscopist, without major complications.

Conclusions: The use of OSATS, to evaluate the competence of established gynecologists while implementing an advanced laparoscopic technique seems feasible. Instead of quantity control, OSATS can be used as a quality instrument to assess a surgeon’s competence in the process of learning a new surgical technique.

Objective: Structured assessment of technical skills (OSATS) to evaluate the competence of gynecologists in learning a total laparoscopic hysterectomy

Background: Cervical cancer is the second most common female malignancy worldwide. Human papillomavirus (HPV) is strongly implicated in its pathogenesis. HPV viral oncoproteins, E6 and E7, interfere with cell cycle regulatory pathways involving p53 and retinoblastoma protein (pRb). HPV E7 interaction with pRb causes release of transcriptionally active E2F, which then stimulates increased production of other cell cycle regulatory molecules. These molecules may have potential as disease biomarkers.

Design: CaSki, C33A, SiHa and HeLa cervical cancer cell lines were cultured. Total RNA was extracted from harvested cells. RNA quality was confirmed by gel electrophoresis. 5ug total RNA from 3 passages of each cell line and 5ug total normal cervix RNA in triplicate (BioChain) was labeled with digoxigenin using a 2 step RT-IVT approach and hybridised to Applied Biosystems human genome survey microarrays.

Results: Data analysis was performed using Spotfire software. Samples were normalised and p values calculated using a t test. Comparing malignant to benign datasets, 6979 genes were differentially expressed, with 2286 up-regulated and 4693 down-regulated. Up-regulation of 14 of these genes, including a number of E2F target genes, was confirmed in all 4 cell lines by RT and quantitative real time PCR using ABI Gene Expression TaqMan assays.

Conclusion: Disruption of normal cell cycle regulatory pathways is common in cervical cancer. While increased expression of several of these biomarkers has previously been demonstrated by immunohistochemistry, gene expression profiling identifies significant numbers of related molecules that are differentially expressed whose role as biomarkers remains to be elucidated.
OUTCOME ANALYSIS OF FOUR YEARS FOLLOW UP OF PATIENTS DIAGNOSED WITH ONE SMEAR SHOWING MILD DYSKARYOSIS

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Objective: To assess the outcome after one smear showing mild dyskaryosis with respect to regression rate, prevalence of CIN and effect of age on the outcome.

Methods: Retrospective analysis of patients diagnosed with initial mildly dyskaryotic smear during the year 2000 with a follow up period of 48 months. These women have not had any previous abnormal smears.

Results: 375 patients with complete follow up data were included. There were 207 patients aged 35 years or less (55%). The total number of negative follow up smears in the first year was 198 out of a total of 397 smears performed (50%). This proportion has significantly increased between 1-4 years follow up to 67.5% (RR: 1.24; CI: 1.14-1.35). Over the four years period, 791 smears were performed and 477 were negative (60.3%; CI: 56.9%-63.7%). Of the 477 negative smears, only 61 smears (12.8%; CI: 10%-16%), in 54 patients (14%) that reverted back to low grade abnormality. Out of the 375 patients, 70 required treatment with excisional biopsy (19%; CI: 15.0%-22.9%). The prevalence of high grade CIN was 11% (CI: 8.1%-14.5%). There were no cases of cancer detected. Age did not significantly affect outcome.

Conclusion: 60% of follow up smears were negative; of them 87.2% had no false-negativity of SLN. In 1 of 4 groins with no SLN de-

SENTINEL NODE DETECTION IN PATIENTS WITH MIDLINE VULVAR CANCER

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Objective: The aim of the study was to determine the diagnostic accuracy and feasibility of sentinel lymph node (SLN) identification in the patients with vulvar cancer localised on the midline or close to it.

Methods: Between June 2004 to January 2006, 13 patients with midline vulvar cancer were enrolled in to the prospective study. 3-5 hours before planned operation 50 MBq of Technetium-99-labeled nanocolloid was injected intradermally at four locations around the tumour and then a static lymphoscintigraphy was performed. After general anaesthesia blue dye was injected in the same locations as radioisotope. SLN was identified visually and by using a hand-held gamma detection probe. Radical vulvectomy or radical wide excision and bilateral inguinofemoral lymphadenectomy were then performed. SLN was examined with hematoxylin-eosine and immunohistochemistry.

Results: At least one SLN was identified in all 13 patients (detection rate per patient 100%) and in 22 of 26 dissected groins (detection rate per groin 85%). The total number of SLN was 31 with average 2,4 per groin. The number of positive SLN was 8. Additional metastatic nonsentinel lymph node was noted only in one patient. We had no false-negativity of SLN. In 1 of 4 groins with no SLN detection was found a massive metastatic involvement.

Conclusion: SLN detection by combined technique is feasible with 100% detection rate per patient and high detection rate per groin. In unilateral SLN detection full inguinofemoral lymphadenectomy in the other groin should be performed.

RETROSPECTIVE REVIEW OF PERINEAL RECONSTRUCTION AFTER VULVECTOMY

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Introduction: Fasciocutaneous and myocutaneous flaps are instrumental in the repair of the vulvar defect but are not commonly employed due to lack of gynecologic surgical training and comfort with these techniques.

Methods: A total of 18 patients were included for final review from 2001-2006, who underwent surgical resection for dysplasia or invasive carcinoma. Flap reconstruction was performed by a single plastic surgeon. The number of groins, flap defect size, flap size, patient comorbidities, tumor characteristics, and flap viability were evaluated.

Results: The median age was 55.9 years. The average lesion size was 5.59 cm x 3.83 cm. The average defect size was 9 x 6 cm. The average number of flaps was 2.27 with a range of 1-6 flaps per groin. There were 40 fasciocutaneous flaps, 1 myocutaneous flap, and 1 split thickness skin graft. Body mass index did not affect outcome. Eighty percent (33) of the flaps had some degree of delayed healing, most of which were non-significant, without compromise to the patient. The majority of the flaps with delayed healing were treated successfully with short-term local wound care.

Conclusion: Vulvar surgery for preinvasive and invasive carcinoma has trended towards less radical surgery with primary reconstruction. Fasciocutaneous and myocutaneous flaps are valuable surgical techniques in the primary surgical repair of large vulvar defects. A multidisciplinary surgical approach involving a gynecologic oncologist and a plastic surgeon can provide appropriate tumor resection with excellent cosmetic and functional reconstruction with a reduction in psychosexual morbidity.

CONSUMER INVOLVEMENT IN THE DESIGN OF A STUDY INTO THE PSYCHOSOCIAL IMPACT OF CERVICAL CANCER ON WOMEN AND THEIR PARTNERS

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Background and Aims: We have designed a study to assess the long-term psychosocial impact of cervical cancer (CC) on women and their partners. To ensure that the study investigated the issues pertinent to women with cervical cancer, a group of volunteers was recruited to act as ‘consumer’ advisors throughout the life span of the project including the study design and development phases. We report on the reasons for recruitment of this group, the method used, how they were involved in the study design and their motivations for involvement.

Method: An advert was posted on an internet-based support group for women who have experienced CC asking for people who were interested in helping to design and conduct the proposed study.

Results: Within seven days a group of ten women and six family members had volunteered to participate. Their age, time post diagnosis and treatments were varied. The main reasons for participation were to ‘give something back’ to the cancer community.
that had supported them and to improve future education, treatment and support of women being diagnosed with CC and their partners.

Conclusions: The method of recruitment was effective, resulting in a cohesive group of women and their partners with a range of social, diagnostic and treatment experiences. This is undoubtedly a biased group who have sought support however, their contribution to the design of this study has been essential to ensure that the study will address issues that are of both clinical and personal relevance to the scientific and patient communities.

0452

ABNORMAL CERVICAL CYTOLOGY & CERVICAL ENDOMETRIOSIS

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Objective: To evaluate cervical endometriosis as a source of abnormal cells in cervical smears.

Study Design: Documented histological cases of cervical endometriosis with concurrent cervical smears were reviewed.

Results: There were 11 cases of cervical endometriosis. All patients presented with abnormal cervical cytology, I had history of persistent postcoital bleeding. Smear abnormalities included: 2 borderline, 4 mild, 3 severe, 1 recurrent inadequate and only 1 had borderline glandular dyskaryosis.

5 cases had previous loop conization for cervical intraepithelial neoplasia (CIN). Colposcopic findings were: 3 cases of CIN, 5 patients with unsatisfactory colposcopy, in 1 case the initial loop histology was inconclusive and a cone biopsy confirmed endometriosis. I had concurrent high grade CIN and 1 with scarring.

Conclusion: Endometriosis may be challenging when identified on cervical smears leading to an incorrect interpretation of CIN or CGIN. While cervical endometriosis has been reported to be a diagnostic pitfall of glandular abnormalities, its characteristic features are still not well established. In our series only 1 out of 11 cases reported glandular abnormality. 5 of our patients had previous loop biopsies. Awareness of cervical endometriosis, particularly in patients with previous cervical insult, is crucial for a correct diagnosis. Physicians monitoring patients after treatment for CIN need to be aware that endometriosis may be the source of atypical glandular cells and may be subject to misinterpretation. Published series and our own experience suggest that these smears will continue to present diagnostic difficulties.

0453

FIBROBLAST GROWTH FACTOR RECEPTOR 1 (FGFR1) OVEREXPRESSION PLAYS A POSSIBLE ROLE IN CERVICAL CARCINOGENESIS

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Introduction: Cervical cancer is one of the most globally common cancers in women. It is also the leading gynecological cancer in Taiwan. Although some risk factors such as sexual activity, HPV or HIV infection, cigarette smoking, are reported to correlate with cervical cancer, the true pathogenesis of cervical cancer is still pending. Fibroblast growth factors (FGFs) and their high affinity receptors (FGFR1-FGFR4) are implicated in the development of several human cancers. Altered gene expression and protein levels of one or more of these receptors and ligands have been identified in lung, kidney, colon, hematological, head and neck, breast and prostate cancer. FGFR1 overexpression or FGFR subtype switch will induce the interruption between epithelium and stroma then cancer occurs. Whether the interaction of FGF/FGFR are different in normal cervical epithelium and cervical cancer? The purpose of this study is to elucidate the relation of FGF/FGFR in cervical cancer.

Materials and Methods: Normal cervical epithelial cell was used as a control, Cx cell and CXWJ represented the malignant cervical cancer cell line. RT-PCR for FGFR 1-4 were also checked.

Result: CXWJ cell lost the morphology character of normal cervical epithelium, loss polygonal shape and became spindle shape. CXWJ cell had more rapid growth ability. From the data of RT-PCR, in compared with normal cervix epithelium, CX, CXWJ cells have FGFR1 overexpression. FGF receptor 1 is functionally proved by the growth stimulation assay with FG2. The interaction between FGF/FGFR is possibly via autocrine interaction.

0454

OXALIPLATIN ENHANCES RADIORESPONSE OF HUMAN CERVICAL CANCER CELLS

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Purpose: Concurrent chemoradiotherapy is now a standard treatment for locally advanced cervical carcinoma. The most widely used chemotherapeutic drug is cisplatin with extensive clinical evidence. However, the renal toxicity of and resistance to cisplatin remain major concerns in clinical practice. This study was designed to evaluate the effect of oxaliplatin, another platinum compound, on enhancing the radiosensitivity in cervical cancer cell lines.

Materials & Methods: Human cervical cancer cell lines HeLa (HPV 18+) and SiHa (HPV 16+) were cultured in exponential growth state. Cell survival after radiation with or without oxaliplatin pretreatment was assessed by colony formation assay. Sensitizer enhancement ratio (SER) was calculated by using linear-quadratic model. Cell morphology was observed after staining with Wright’s dye, PI and tubulin. For evaluating DNA damage repair machinery, the nuclear protein was subjected to Western blotting for expression of DNA damage-related molecules.

Results: The non-toxic dose of oxaliplatin to HeLa and SiHa cells was 0.5 mM and 0.125 mM. Pretreatment with oxaliplatin at 0.125 to 1 mM markedly decreased the survival of irradiated tumor cells. The maximal SERs at 37% survival were 3.1 and 3.9 in HeLa and SiHa cells, respectively. Oxaliplatin pretreatment enhanced the morphological changes characteristic of mitotic catastrophe which was induced by ionizing radiation.

Conclusion: Oxaliplatin can sensitize human cervical cancer HeLa and SiHa cells to ionizing radiation.

0455

LOCALIZATION OF ANATOMIC POINT A IN PATIENTS WITH CERVICAL CANCER

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Background: Point A, the major critical point for dose specification of intracavitary brachytherapy, is defined as the crossing of uterine artery and ureter in treatment of cervical cancer. However, the currently advocated systems use hypothetical point A (HPA) to estimate the dosimetry of brachytherapy. This study is to localize anatomic point A (APA) of cervical cancer patients.
**Methods:** We used clipping technique to localize anatomic point A (APA) for cervical cancer patients during laparotic/laparoscopic pelvic and parametrical lymph node dissection. When these patients were receiving brachytherapy, orthogonal and oblique radiographs were obtained after insertion of applicators. The distance and estimated brachytherapy dose between HPA and APA were compared.

**Results:** Eleven patients with locally advanced squamous cell carcinoma of uterine cervix for whom primary concurrent chemoradiation with brachytherapy was recommended after lymph node dissection were recruited. Surprisingly, the mean right and left 3-dimensional distances between HPA and APA are 5.2 ± 1.0 cm and 5.4 ± 1.1 cm, respectively. The estimated right and left brachytherapy doses to APA are 35.2% (176.6 ± 59.0 cGy) and 30.0% (150.2 ± 42.9 cGy) of presumed fraction size (500 cGy) to HPA.

**Conclusions:** The individualized localization of APA during lymph node dissection revealed a significant difference from HPA. It implicates that the previous clinical data and current use of point A for dose prescription of brachytherapy for cervical cancer could be re-evaluated by using localization of APA, especially when combined with use of intensity-modulated radiotherapy.

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**LAPAROSCOPIC RADICAL HYSTERECTOMY TYPE III IN TREATMENT OF LOCALLY ADVANCED CERVICAL CANCER (LACC) AFTER NEOADJUVANT CHEMOTHERAPY (NACT)**

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**Background and Aims:** Concomitant chemo-radiotherapy is the standard treatment of LACC. NACT followed by radical surgery represents an alternative to surgery and irradiation. Recently the laparoscopic approach has been mainly used in cervical cancer. This study evaluates adequacy, applicability and morbidity of minimally invasive surgical techniques in patients with LACC after NACT.

**Methods:** From October 2004 to March 2006 fifteen patients, mean age 49, mean BMI 26, with LACC stage IIa-IIb, received three courses of NACT that included ifosfamide 5 g/m2, cisplatin 50 mg/m2 and paclitaxel 175 mg/m2. All patients had partial or complete clinical response to chemotherapy and underwent laparoscopic type III radical hysterectomy and pelvic lymphadenectomy with or without salpingo-ooophorectomy.

**Results:** In 2 cases laparoticom conversion was performed for hiatal hernia and ipecacenia. In the remaining 13 cases mean operative time was 333 minutes, mean lymph nodes count was 22, mean blood loss was 290cc. No patients had transfusion. Mean hospital stay was 8 days. Mean length of the resected parametra and vagina was 4.2 cm and 2.5 cm, respectively. One patient had a left epigastric artery lesion repaired laparoscopically. Post-operative complication occurred in two cases: a pelvic hematoma and vaginal lymphorrhea. All patients show no evidence of disease with a mean follow-up of 9 months.

**Conclusions:** Laparoscopic radical hysterectomy is possible after NACT in LACC with low peri-operative morbidity and blood loss, faster recovery and better cosmetic results. A long term follow-up is needed to confirm this surgical approach as an alternative to conventional surgery.

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**PATTERNS OF INGUINAL GROIN METASTASES IN SQUAMOUS CELL CARCINOMA OF THE VULVA**

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**Background and Aims:** Assess the pattern of groin node metastases in squamous cell carcinoma (SCC) of the vulva in relation to the site of the primary lesion. Assess whether the identified pattern of lymphatic spread supports the current surgical practice of assessing contralateral nodes for lateral lesions with ipsilateral nodal involvement.

**Methods:** A retrospective study of surgically staged patients with primary SCC of the vulva between 1955 and 1990 was conducted. This cohort of patients was divided in 4 subgroups by location of primary lesion: unilateral, bilateral, midline, and patients with mediolateral lesions. All clinical and pathological data was reviewed and updated to the 1988 TNM vulvar classification.

**Results:** 320 patients met the inclusion criteria, and almost all of them (≥95%) underwent bilateral groin assessment. Of the 108 patients with positive groin lymph-node (LN) involvement, 77 presented with unilateral and 24 with bilateral inguinofemoral involvement. Of the 163 patients presenting with only unilateral vulvar lesions, 48 had inguinofemoral node involvement: 37 with ipsilateral-only nodal metastases, 8 with bilateral LN invasion, and only 3 (1.8%) had isolated contralateral nodal metastases. None of these patients with unilateral vulvar lesion that was either ≤2 cm in biggest diameter or with invasion ≤5 mm had bilateral groin LN involvement at diagnosis.

**Conclusions:** Ipsilateral lymphadenectomy is suitable for patients with unilateral lesions, distant from the midline, and either negative ipsilateral nodes, or with positive ipsilateral LN with lesions smaller than 2 cm. Pelvic radiation is warranted in patient with more than 2 positive inguinofemoral LN.

0458

**INDEPENDENT PROGNOSTIC FACTORS OF STAGE IB CERVICAL CANCER: WHAT IS THE PROGNOSTIC EFFECT OF TUMOR SIZE??**

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**Background and Aims:** To evaluate independent prognostic factors of stage IB cervical cancer and to define the real prognostic effects of bulky cervical tumor on disease free survival (DFS) and overall survival (OS) in patients undergone radical hysterectomy.

**Methods:** Patients with stage IB cervical cancers undergoing radical hysterectomy between 1995 and 2005 were evaluated. Variables were analyzed using chi-square and t-student test. DFS and OS were calculated by Kaplan-Meier method.

**Results:** FIGO stages of the 149 patients were 109 stage IB1 and 40 stage IB2. Tumor sizes were obtained from macroscopic pathology reports. Mean age of the 149 patients was 46 years (range 17-70) and 16% of patients have adenoacncer. On univariate analysis, tumor size >4cm (P = 0.03), PI (parametrial involvement) (P = 0.006), outer 2/3 DOI (depth of invasion) (P = 0.000) and positive pelvic lymph nodes (P = 0.03) were found to significantly related to reduced DFS and OS. LVSI (lymphovascular space involvement) only affected significantly OS not DFS. Multivariable analysis revealed 2 factors to be significant: DOI (p: 0.043; 95% CI: 1.7-1.1) for DFS and PI (p: 0.026; 95% CI: 2.4-7.2) for OS. Patients with IB2 disease received adjuvant radiation more frequently than IB1 patients (67% vs. 27%, P = 0.001). Five- year DFS and OS for all patients were 78% and 88%, respectively.

**Conclusion:** Among patients with stage IB cervical cancer, PI and DOI were risk factors for worse prognosis. Pathologic tumor size was not an independent prognostic variable of both DFS and OS.
PHASE II TRIAL OF PACLITAXEL IN PATIENTS WITH ADVANCED VULVAR CANCER AFTER LOCO REGIONAL TREATMENT WITH SURGERY AND RADIOTHERAPY

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Background: For patients with advanced or recurrent vulvar carcinoma not amenable for locoregional treatment or patients with metastatic disease no standard treatment options are available.

Methods: In this phase II study patients with advanced vulvar cancer received paclitaxel (175 mg/m² sqm day 1) every three weeks for up to 10 cycles. Prior chemotherapy in combination with radiotherapy was allowed. Primary objective was response rate. Secondary objectives were response duration and toxicity. Response evaluation was assessed by WHO criteria, toxicity according to CTC-criteria.

Results: Between February 2001 and February 2005, thirty-one women from 10 institutions were included, with a median age of 64 (range 47 - 84), of which 29 were evaluable for response. On study patients received a median of 4 cycles (range 1 - 10).

Safety: Grade 3 and 4 neutropenia was seen in 8 patients (8/29 = 27%), which in one patient resulted in neutropenic fever and treatment related death. Further treatment related grade 3/4 toxicity included fatigue in 3 patients (10.3%), and neuropathy in 1 patient (3.4%).

Efficacy: Overall response was 13.8 % (n= 4; 2 CR + 2 PR). With a median follow up of 24 months, median PFS was 2.6 months (95%CI: 2.04 – 4.21). Lesions outside the previously irradiated areas responded, as expected better.

Conclusion: Paclitaxel shows moderate activity for local control in advanced vulvar cancer, but might be more active in new multimodality strategies.

LOUPES ASSISTED NERVE SPARING RADICAL HYSTERECTOMY-IMMUNOHISTOCHEMISTRY AND LONG TERM URODYNAMIC AND ANORECTAL DYSFUNCTION

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Aim: The aim of the study was to compare Nerve Sparing Radical Hysterectomy (NSRH) with other types of RH, in long term anorectal and bladder disorders, and to describe the differences of nerve damage between them.

Methods: In our prospective randomized study 19 patients underwent Type III NSRH, 32 patients Type II RH and 19 patients Type III RH. All our patients underwent pelvic lymphadenectomy. Intraoperative biopsy specimens were collected from uterosacral and cardinal ligaments and from posterior and anterior vaginal wall. Immunohistochemical analysis was done with the use of a general nerve marker (S-100) in order to confirm the extension of nerve damage. Anorectal and bladder function were evaluated at 2,6 and 12 postoperative months.

Results: Immunohistochemistry confirm significant differences of nerve amount in surgical margins of uterosacral (p < 0.001) and cardinal ligament (p < 0.001) between NSRH and RH type III, and in significant differences between the posterior (p = 0.077) and anterior (p = 0.106) vaginal wall among the three groups. Urodynamic evaluation showed that NSRH and Type II RH patients had significantly less bladder complications compared with Type III RH (p = 0.001).

Anorectal morbidity was statistically higher in Type III RH in 2 and 6 months postoperatively, but not in 12 months.

Conclusion: Nerve plexus trauma at NSRH type III seems to be comparable with RH type II, and significantly smaller in comparison with RH type III. The surgical preservation of the pelvic autonomics nerves reduces anorectal and bladder morbidity, improving quality of life with no loss of radicality.

THE BENEFITS OF ADJUVANT EXTRA-FIELD RADIOTHERAPY (EFRT) IN MULTIMODAL TREATMENT OF ADVANCED CERVICAL CANCER

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Background: The combination of neoadjuvant chemotherapy (NACT), radical surgery and radiotherapy (RT) is one of the most actual variants of advanced cervical cancer (ACC) treatment, but results are still disappointing and comparable with results of RT alone. Adjuvant EFRT on paraaortic zone seems to be the way to improve the results.

Materials and Methods: 57 patients, 16-77y.o., with ACC T2a-3bNo-M0, after platinum-taxan based NACT and radical hysterectomy, were included because of metastasis in pelvic lymph nodes (LN), primary tumor volume >50mm3, lymphovascular or myometrial involvement, therapeutic pathomorphosis I-II in tumor and metastatic LN. All included received the same post-operative pelvic irradiation 46-48Gy, and were randomized in 2 groups: with ( group I, 27pts. (47,3%) or without (group II, 30pts. (52,6%)) adjuvant EFRT on paraaortic zone, 2-2,2Gy/ fraction, 36-40Gy. In 7pts. (29,6%) of group I, 0-1 ECOG, EFRT was held simultaneously with endovaginal brachytherapy, in 20 (74%), ECOG II; EFRT was the last step of post-operative RT. Concomitant therapy included gastroprotectors, H3-blocators, infusion of ozone solutions.

Results: No complications grade III-IV. Haematologic toxicity I-II was noticed in 8 (29%), gastro-intestinal toxicity – in 16 (57%), anorexia-I- in 10 (37%), vomiting – in 6 (22%), gastritis – in 4 (14,8%) pts. Patients in group II had been observed. 2-year-results were compared. OS 92,3% vs 81,5%, DFS 84,6% vs 77,5%, LN progression 12% vs 0%.

Conclusion: Adjuvant EFRT is effective and well tolerated way to improve the results of multimodal treatment in patients with ACC resistant to NACT.

LAZER INTERSTITIAL THERMOTHERAPY IN MULTIMODAL TREATMENT OF LOCALLY ADVANCED AND RECURRENT GYNECOLOGICAL CANCER: THE PILOT STUDY

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Background: Inspite of achievements in gynecological cancer treatment, more than 50% of treated women had the symptoms of progression in 12-36 mnth. Hyperthermia demonstrates an own antitumor and radiosensitive activity in experiment. The advantages of lazer interstitial thermotherapy (LITT) with interactive dynamic regulation of temperature and depth of heating were evaluated.

Materials and Methods: LITT was used in 30 patients with locally advanced and recurrent gynecological cancer, in 17 pts. (56,6 %) with cervical cancer after neoadjuvant chemo-/radiotherapy, in 4 pts. (13,3%) - vaginal cancer, in 5 pts. (16,6%) - vaginal or skin metastases of endometrial, ovarian cancer, in 2 (6,6%) - recurrent vulvar cancer. All women had the symptoms of progression after previous steps of treatment, with tumor volume 26sm3 – 17sm3. Full course
THE ROLE OF A NOVEL TARGET OF PACLITAXEL, TACC3
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Backgrounds: Paclitaxel is currently used in the treatment of various solid cancers. Although treatment of various tumor cells with paclitaxel in vivo and in vitro induces apoptosis, but early paclitaxel-targeted proteins is not yet known.

Methods: We identified TACC3 as a novel protein that is downregulated with paclitaxel treatment by proteome analysis including 2-DE and MALDI-TOF-MS in cervical cancer cell line. Our current studies aim to show TACC3 functions through in vitro treatment of paclitaxel or TACC3 siRNA by RNAi (RNA interference).

Results: Paclitaxel-treated cells are unable to proceed normally through the cell cycle and are arrested in G2/M phase. Also, TACC3 levels after paclitaxel treatment decreased as a time- and dose-dependent manner both mRNA and protein levels. After treatment of paclitaxel or TACC3 siRNA, there were significant G2/M phase arrest (>4 fold), TACC3 down-regulation and apoptosis in cervical carcinoma HeLa cell lines. Also, we confirmed that the role of TACC3 siRNA for microtubule stabilization is similar to that of paclitaxel. mTACC3-overexpressing cells showed cell overgrowth and S-phase delay on cell cycle progression as compared with control cells. Paclitaxel treatments in mTACC3-overexpressing cells were unable to suppress exogenous TACC3 expression and induce cell growth inhibition, G2/M phase arrest, apoptosis and microtubule disintegration.

Conclusions: This study is proposed that the TACC3 protein may be participated in microtubule formation as an oncoprotein during mitosis and be regulated by paclitaxel as a novel target. In conclusion, TACC3 may involve the mechanisms of tumorigenesis and may be a target protein for cancer therapy.

MEASUREMENT OF T CELL RESPONSES TO HUMAN PAPILLOMAVIRUS (HPV) ONCOGENES
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Background and Aims: Persistent infection with HPV oncopgenes is fundamental in the development of cervical cancer. The aim of this project was to develop a technique for measuring the T cell responses which are thought to be required for the clearance of HPV infection.

Methods: Mononuclear cells were isolated from whole blood and cultured for 7 days with vaccinia virus vectors coding for the HPV 16 and 18 E5 and E7 oncopgenes. Aliquots of blood from each woman were depleted of CD8 cells using magnetic beads, and this CD8 depleted blood cultured separately.

Cultured cells were re-stimulated with the viral vectors after 7 days. The cell-mediated immune response to the oncopregnies was measured by quantifying the Interferon gamma produced by the cells using a standard ELISPOT method.

Results: There was a 73% reduction in the response to HPV in the CD8 depleted blood compared with the whole blood (95% CI 49.8%-89.3%), suggesting that it is CD8 cells which respond predominantly. There was evidence that a high grade CIN was associated with a decreased response to HPV, but no significant difference between HPV positive and negative women.

Conclusion: This is a useful method for measuring T cell responses to HPV oncopregnies. It has been used to investigate whether women at increased risk of cervical cancer demonstrate an immunological susceptibility. Further studies are required to investigate larger numbers.

PLANNING THE ORGANIZED SCREENING FOR CERVICAL CANCER IN SERBIA: WHAT DO THE WOMEN THINK?
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Serbia employs opportunistic approaches to cervical cancer screening, leading to inequitable health care access.

The study on the health care needs of women, their knowledge of and perceived barriers to cervical cancer screening was comprised of qualitative (phase I) and quantitative (phase II) research. The first phase involved focus groups (62 women) and in-depth interviews (22 women). Data deriving from the qualitative study were used to develop a questionnaire on women’s lay understandings and knowledge of cervical cancer, which was distributed to a random sample of 800 women.

Education and economic status were not highly related to knowledge about cervical screening. Results revealed that most women do not regularly visit a gynecologist, think that absence of symptoms means that they are healthy, believe that little can be done to prevent cancer and unwillingly talk about the illness. Thematic analysis identified that the interplay of social and personal barriers influenced women’s poor presentation for screening, including inadequate public health education, lack of patient-friendly health services, sociocultural health beliefs, gender roles, and personal difficulties.

The study findings suggest how within the context of opportunistic screening women’s access to health care may be improved, through, for example, the introduction of compulsory cervical cancer screening, suggested by some participants, and an increased involvement of the media. In general, study findings will be used to inform and facilitate the change in government’s policy regarding cervical screening and to develop the public health campaign targeting cervical cancer.

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WOMEN’S EXPERIENCES OF VAGINAL CHANGES AND SEXUAL FUNCTION FOLLOWING TREATMENT FOR CERVICAL CANCER
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Background: Findings regarding the effects of radical surgery and radiation on sexual function following treatment for cervical cancer are inconsistent.

Aims were to:
- identify and describe the anatomical and functional changes to the vagina resulting from Radical Hysterectomy (RH), Radical Hysterectomy plus external Radiation (RH + RT) and Radiation alone (RT).
- describe the impact of vaginal changes on sexual function.

Method: All women with cervical cancer treated at the study hospital who were disease free for at least 12 months, attending for routine follow up, were invited to participate in the study. Consenting women (RH; n = 31), (RH + RT; n = 32) and (RT; n = 32) and a comparison group (n = 31), who had an extraperitoneal hysterectomy, with or without bilateral salpingo-oophorectomy, and no adjuvant therapy for an early stage gynaecological cancer were measured for vaginal length and caliber and interviewed re the impact of treatment on sexual function.

Results: Lack of vaginal lubrication was reported by 46% of women having RH and 100 % having RT. Corresponding figures for dyspareunia were 23% and 57% respectively, but 49% of women treated with RT were unable to resume sexual intercourse due to vaginal stenosis. All treatment groups reported some decline in sexual arousal and sexual orgasm, but this was significant in the RT group (p = 0.01).

Conclusion: Vaginal stenosis, dyspareunia and lack of vaginal lubrication are more common after definitive radiotherapy. There is scope for more active nursing intervention, to provide information and support for these women in preventing and managing these problems.

Conclusion:

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SIGNIFICANT INCREASE OF SECOND PRIMARY CANCER AMONG VAGINAL CANCER (VC) PATIENTS
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Objective: To evaluate the prognostic impact of lymph node involvement in vulvar carcinoma (VC).

Material and Methods: Records of women diagnosed with a histo logically confirmed primary invasive VC who underwent surgery (wide local excision or vulvectomy) with lymph node dissection were abstracted from the Surveillance, Epidemiology, and End Results (SEER release 2005). Cox proportional hazard models were used to analyze the following variables: age at diagnosis, race, marital status, tumor size, stage (local, regional, metastatic), histology (squamous cell carcinoma vs other), grade, nodal status (node-positive N+ vs. negative N0), number of positive nodes (npos), number of nodes removed (ntot), and lymph node ratio (LNR = npos/ntot%). Endpoint was death from VC.

Results: There were 1165 cases with complete data available. Median age was 70 years, follow-up 55 months, tumor size 29 mm, and ntot 14. Among N+ patients, the median npos was 2 and LNR 15%. Five-year overall survival was 74.1% in N0, and 34.3% in N+. Five-year cause-specific survival was 90.0% in N0, and 49.7% in N+ (P < 0.0001). By multivariate analysis, significant variables were: age with hazard ratio (HR) 1.03 per year of age (P < 0.0001), tumor size HR = 1.003 per mm (P = 0.04), histology HR = 1.99 (P = 0.05), N + status HR = 3.62 (P < 0.0001), npos HR = 1.09 per node involved (P = 0.0009), and LNR HR = 1.01 per 1% node involvement (P = 0.002).

Conclusion: Nodal status, number of positive nodes, and lymph node ratio are important predictors of survival from VC, but not the
total number of nodes removed. This supports the use of sentinel node biopsy in VC.

LYMPH NODE RATIO (LNR) IS A USEFUL PROGNOSTIC FACTOR IN NODE-POSITIVE PRIMARY VULVAR MALIGNANT MELANOMA (PVMM)

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Purpose: LNR has been used successfully in several disease sites. We evaluated the value of LNR in node-positive (N+) PVMM.

Material and Methods: Records of women diagnosed with histologically confirmed PVMM who underwent excisional surgery with lymph node dissection were abstracted from the Surveillance, Epidemiology, and End Results (SEER) release 2005. Cox proportional hazard models were used to analyze the following variables: age at diagnosis, race, marital status, tumor thickness (Breslow), number of positive nodes (npos), number of nodes removed (ntot), and lymph node ratio (LNR = npos/ntot). Endpoint was death from PVMM.

Results: Out of 390 PVMM, there were 77 cases with lymph node dissection, 46 node-negative (N0), 31 node-positive (N+). Median age was 61 years, follow-up 54 months, and Breslow 1.85 mm. In N0, median ntot was 6 (range 2–29). In N+, median npos was 2 (1–8), ntot 13 (2–49), LNR 21% (3–100%). Causes of death was PVMM in 28 patients (7 in N0, 21 in N+), other cancer 2 (1 N0, 1 N+), non-cancer 3 (all 3 N0). Five-year cause-specific survival was 82.2% in N0, and 24.7% in N+. By univariate analysis, only npos and LNR were statistically significant (P<0.0001). Of interest, in N+, only LNR remained significant with a hazard ratio of 1.04, i.e. 4% relative excess mortality per each 1% increased lymph node involvement (P = 0.0001).

Conclusion: This study demonstrated that LNR is a useful prognostic factor in N+ PVMM.

OSTEOPONTIN AS A DIAGNOSTIC AND PROGNOSTIC MARKER FOR CERVICAL SQUAMOUS CELL CARCINOMA

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Background and Aims: There is considerable interest in the role of osteopontin in human tumorigenesis, especially since it appears to be a marker of transformed epithelial cells. It has also been recognized that osteopontin seems to act as a survival factor. The study was conducted to evaluate the role of osteopontin as a diagnostic and prognostic marker for cervical squamous cell carcinoma.

Methods: A total of 340 subjects in the study population were recruited from blood donors as healthy controls and patients with cervical intraepithelial neoplasia and cervical squamous cell carcinoma. Plasma samples were taken for osteopontin level assay and the result was compared with clinical parameters.

Results: Osteopontin levels in plasma were significantly higher in 167 patients with cervical squamous cell carcinoma (541 ng/mL) compared with healthy controls (172 ng/mL). In 39 patients with cervical intraepithelial neoplasia (342 ng/mL). High plasma osteopontin levels were also associated with large tumors, high grade, advance stage and poor outcome.

Conclusion: Our findings provide evidence for an association between osteopontin level and cervical squamous cell carcinoma and suggest that further research assessing its clinical use would be worthwhile.
Background: The objective of this study was to assess the clinical outcome of patients with microinvasive carcinoma of the cervix.

Methods: Prospectively collected data on 178 consecutive patients with stage 1a1 and 1a2 was examined (staging as per FIGO nomenclature). There were 130 cases of stage 1a1 and 48 cases of stage 1a2 disease.

Results: Of the patients with stage 1a1 disease 44 (33.85%) were treated with cone biopsy alone (one also underwent pelvic lymphadenectomy) 67 (51.53%) were treated with simple hysterectomy (19 also had pelvic lymphadenectomy) and 14 (10.77%) with radical hysterectomy and pelvic node dissection. 15 patients had Lymph Vascular Space Invasion. Of the 34 who underwent lymphadenectomy one had positive nodes. Of the patients with 1a2 disease, 19 (39.58%) were treated with cone biopsy alone (3 also underwent lymphadenectomy), 20 (41.67%) were treated with simple hysterectomy (4 also had lymphadenectomy), and 8 (16.67%) underwent radical hysterectomy and pelvic lymph node dissection. 6 patients had lymph vascular space invasion. None of the 15 patients who had lymph node sampling had positive nodes.

The mean follow up period was 38.4 months (130.8 months). There was only one death from the disease in a patient with a poorly differentiated stage 1a1 tumor with LVSIs who was treated with radical hysterectomy and pelvic lymph node dissection.

Conclusions: Conization of the cervix with negative margins is a safe method of treating early invasive disease of the cervix. The role of lymph node dissection may be limited and requires further investigation.

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Objective: To determine the significance of prognostic factors and markers in adenocarcinomas of the uterine cervix.

Methods: Three hundred and twenty-eight cases of primary cervical adenocarcinomas in the region of Rotterdam, The Netherlands, were retrieved. Clinical and pathological data were reviewed and analysed in relation to the prognostic markers—estrogen, progesterone, p53, MIB-1, and bcl-2 and HPV-typing.

Results: Mean age at presentation was 51 years. The mean follow-up time for surviving patients was 61 months. The overall survival was 61.5% at 5 years. The 5-year survival rates for stage I and II were respectively 79 and 37%. The 5-yr survival rates for stage III and IV were less than 9%. Using univariate analysis FIGO-stage, grade, age <35 years, histological type, lymph node metastases, lymph-vascular-space-invasion, depth invasion > 10 mm and p53 positivity were significant prognostic factors. For patients with stage I and II-A disease survival was significantly better where the primary treatment was surgical as opposed to primary radiotherapy, p =0.002. Using multivariate analysis only stage, grade and lymph node metastases remained significant independent predictors for survival.

Conclusions: In cervical adenocarcinoma FIGO-stage, grade and lymph node metastases are of significant prognostic value for survival. For predicting survival, determination of other clinical-pathological factors like histological type, lymph-vascular-space-invasion, depth invasion or immunohistochemical markers or HPV-type seems not useful since they are not of significance.

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Background and Aims: Early stage cervical cancer is traditionally treated by Wertheim’s radical hysterectomy. Laparoscopically assisted radical vaginal hysterectomy (LARVH) with or without laparoscopic bilateral pelvic lymphadenectomy (BPL) may be an alternative. The aim of this study was to evaluate the feasibility and morbidity of LARVH.

Methods: Retrospective review of all LARVH procedures between 01.01.2005 and 31.03.2006 in two centres under the same lead surgeon, using Ultracision® as the primary instrument. Demographic, intraoperative and postoperative data were collected.

Results: 14 women (Stage 1A1–IB1) underwent LARVH, 13 also had BPL. None was converted to laparotomy. Mean age was 38 (SD +/−15.5, range 25 - 81). Mean intraoperative haemorrhage was 725 ml and 3 women required blood transfusion. Mean hospital stay was 4 days. In all cases margins were clear. Mean number of lymph nodes obtained was 22. One patient had a positive lymph node requiring radiotherapy. Mean operating time was 243 mins. Intraoperative complications included two cystotomies, one ureteric injury and one injury to the obturator nerve, all repaired laparoscopically. Postoperatively, five women required transfusion. Late complications were two cases of neuropraxia, one case of thigh muscular atrophy, one tuboovarian abscess 9 months postoperatively. Two patients underwent adhesiolysis within two years. 13 patients are well with no sign of recurrence and one patient died of unrelated causes.

Conclusions: LARVH (Coelio Schauta) can be performed safely with minimal blood loss and reduced hospital stay. Intraoperative and postoperative morbidity are acceptable and late complications are infrequent.

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0479
A COMPARISON OF THE HUMAN PAPILLOMAVIRUS GENOTYPING AND LIQUID-BASED CYTOLOGY IN WOMEN WITH CERVICAL HIGH-GRAGE DYSPLASIA AND CANCER

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Objectives: Human papillomavirus (HPV) infection is considered to play an important role in the development of cervical carcinoma, and it is known that HPV types 16 and 18 are highly associated with cervical high-grade dysplasia (CIN 2, 3) and cancer. However, the significance of other high-risk HPV types remains unclear.

Methods: A new HPV detection technique, the HPV DNA chip, was introduced. The HPV DNA chip harbors 24 HPV probes and has the advantage of allowing the detection of 24 HPV types simultaneously. We enrolled 2,065 women 30 years of age and older who were tested for HPV types by HPV DNA chip and liquid-based cytology. Cervical biopsy were performed for making the histologic diagnosis.

Results: HPV type 16, 33, 31, 58 was detected in 76.2%, 69.4%, 63.9%, 63.7% of cervical high-grade dysplasia and cancer, respectively. The liquid-based cytology had a sensitivity of 91% and a specificity of 71.3% for the detection of cervical high-grade dysplasia and cancer. The sensitivity and specificity for HPV genotyping were 90% and 85%, respectively. HPV genotyping had a positive predictive value of 71% and a negative predictive value of 90% to predict cervical high-grade dysplasia and cancer.

Conclusions: The major prevalent HPV genotypes in women with cervical high-grade dysplasia and cancer were HPV types 16, 33, 31 and 58 in descending order of incidence. HPV genotyping or liquid-based cytology provides a equally sensitive method for detecting cervical high-grade dysplasia and cancer.

0480
GENE EXPRESSION PROFILING IN EARLY STAGE CERVICAL CANCER

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Background: In early stage cervical carcinoma 15-21% of patients will have lymph node metastasis at the time of surgery. No valuable clinical biomarkers are available predicting the presence of these metastasis. We conducted a study whether a gene expression profile can be identified that is associated with lymph node metastasis in early stage cervical cancer. In addition we focused on the identification of genes involved in the development of cervical carcinomas.

Methods: Total RNA from tumour samples of 35 patients with early stage cervical cancer who underwent radical hysterectomy and pelvic lymph node dissection and of 5 normal cervical tissues were analysed on whole human genome oligonucleotide micro arrays. Expression profiles of 16 patients with lymph node metastasis were compared to those of 19 patients without lymph node metastasis. In addition, expression profiles of early stage cervical cancer patients were compared to those of normal cervical tissue.

Results: Accurate class prediction was seen between normal cervical tissue and early stage cervical cancer, median error rate of 1.4% in the training set and 4.36% in the test set with low confidence intervals, CI 0-20%. Using hierarchical clustering a subgroup of 100 sequences separated metastasized early stage cervical tumour samples from nonmetastasized samples. Although after validation by repeated random sampling no true prognostic profile could be found.

Conclusions: Expression profiling did not provide an accurate classification for lymph node status in early stage cervical cancer. A subset of genes involved in cervical cancer is identified.

0481
OUTCOME AND PROGNOSTIC FACTORS IN CHEMOREFRACtORY OVARIAN GERM CELL MALIGNANCIES

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Background and Aims: This study was undertaken to investigate the outcome and prognostic factors in patients with chemorefractory ovarian germ cell malignancies (OGCMs).

Methods: A total of 47 patients with chemorefractory ovarian germ cell malignancies treated at the Cancer Hospital of Fudan University, Shanghai, from April 1992 to December 2005 were retrospectively identified and analyzed. Survival was analyzed using the Kaplan-Meier and the statistic significance of various prognostic factors was tested by both the log-rank and the Cox proportional hazards model.

Results: Of the patients studied, 4 had dysgerminoma (DSC), 13 malignant teratoma (MT), 27 endodermal sinus tumor (EST), 2 embryonal carcinoma and 1 mixed form. The median follow-up was 39.7 months (range, 5–164 months). The 1-, 3- and 5-year survival rates were 76.6%, 42.8% and 29.2%, respectively. Histology (DSC/MT versus non-DSC/MT) (P = 0.047), primary and salvage chemotherapy regimen (P = 0.046), chemorefractory disease site disseminated versus solitary (P = 0.049) and residual tumor after salvage surgery (P = 0.022) were significant prognostic factors for survival through univariate analysis. Among them chemorefractory disease site was excluded as an independent factor related to survival according to multivariate analysis.

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Conclusions: Chemorefractory cases with dysgerminoma or malignant teratoma seem to have better outcome than the others. When offered standard BEP/PVB regimen as salvage chemotherapy, patients with chemorefractory disease after non-BEP/PVB primary chemotherapy have better prognosis. Complete resection of target lesions during salvage surgery does benefit chemorefractory patients.

NEOADJUVANT CHEMOTHERAPY AND SURGICAL TREATMENT FOR PATIENTS WITH STAGE IIB-IIIB OF THE CYSTIC CANCER
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Purpose: To investigate the efficacy of cisplatin-based neoadjuvant chemotherapy and research the possibilities of including surgery in local advanced cervical cancer treatment.

Patients and Methods: From 2002 to 2006, 48 patients with stage IIB-IIb received paclitaxel/cisplatin or 5-fluorouracil/cisplatin once a week every 28 days. Responses were assessed after two treatment courses. We analyzed the volume of the cervix, level of squamous cell carcinoma marker (SCC) and parametrial infiltration. The median age of the patients was 45 years. 19 patients had stage IIB and 29 patients had stage IIb disease. The predominant histology was squamous (44 patients).

Results: Treatment was well tolerated: grade 2 (World Health Organization standardized response criteria) leukopenia occurred in 6.2% of patients. Mild asthenia was observed in 8.3% of patients. Decrease of cervical volume more than 50% was registered in 60.4% of patients. SCC response rate more than 50% was in 70.8% cases. Greater than 50% decrease of parametrial infiltration was measured by spiral computer tomography in 81.3% of patients. All the patients were carrying out radical Wertheim's operations.

Conclusion: Neoadjuvant Chemotherapy and Surgery may be more widely and successfully used in Local Advanced Cervical Cancer Treatment.

FUNCTION OF URINARY TRACT FOLLOWING RADICAL HYSTERECTOMY
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Background and Aims: The aim of our study was to assess change in bladder function after radical hysterectomy.

Methods: A prospective study was conducted in patients undergoing radical hysterectomy for cervical cancer. All patients were evaluated preoperatively and 2-6 months postoperatively with a King's Health Questionnaire, uroflowmetry, dual channel cystometry and urethral pressure profilometry.

Results: A total of 64 women were recruited and complete data were available for 53. The mean age was 45.9 (range: 25-71 years). Prior to surgery the number of women reporting frequency, urgency, urge and stress incontinence and voiding difficulty were 17 (32.1%), 12 (22.7%), 9 (17%), 16 (30.1%) and 3 (5.7%) respectively. At follow-up the number of women reporting frequency, urgency, urge and stress incontinence and voiding difficulty were 23 (43.3%), 4 (7.5%), 8 (15.1%) and 11 (20.8%) and 21 (39.6%) respectively. This was a significant increase in frequency voiding difficulties (p = 0.007, p < 0.001 respectively), and a significant decrease in urgency (p = 0.02). There were no patients with new onset urodynamic stress incontinence (USI) postoperatively. Urodynamic findings after surgery showed a statistically significant increase in post micturition residual urine volume, cystometric bladder capacity (p < 0.001, p = 0.005 respectively), an increase (although not significant) of bladder volume of first sensation (p = 0.07), and decrease in detrusor voiding pressure (p = 0.001). Urethral function assessed by urethral pressure profilometry showed no significant changes in maximal urethral closure pressure (MUCP) and functional urethral length (FUL) (p = 0.46 and p = 0.18 respectively).

Conclusion: Urodynamics reveal an increase in voiding dysfunction due to a decreased detrusor contractility, and increase of bladder capacity. Urethral function parameters are unaffected by surgery.

SYSTEMATIC LITERATURE REVIEW OF THE PSYCHOSOCIAL IMPACT OF CYSTIC CANCER
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Background and Aims: The incidence of cervical cancer (CC) in the UK is highest in women in their 30s and 40s and 5-year survival is approximately 70%. We conducted a systematic literature review to determine the long-term (>6months post-diagnosis) psychosocial impact of CC.

Methods: We searched Medline, Embase, British Nursing Index, CINAHL and Social Sciences Index. We included all cross-sectional and prospective longitudinal studies of the psychosocial impact of CC published in English.

Results: 32 of 1036 papers fulfilled our inclusion criteria. There were ten prospective longitudinal studies, four of which were specific to CC. Many of the cross-sectional studies examined the long-term (5-25 years) impact of CC on sexuality. It was not possible to determine the precise prevalence and timing of the psychosocial impact of CC from the published studies. Although many women adjust well to their CC, some women experience significant psychological and sexual morbidity for more than five years following diagnosis. Risk factors for maladjustment include changes to employment and marital relationships following diagnosis, lack of social support and in some studies, surgical treatment.

Conclusion: CC affects young women who, following successful treatment may have a normal life expectancy. The psychosocial impact of CC seems to be greatest in the first two years following diagnosis however, some patients experience substantial psychological morbidity more than five years after diagnosis. In order to be able to identify when and to whom psychosocial interventions might be appropriate a longitudinal inception cohort study needs to be conducted.

THE FIRST CLINICAL EXPERIENCE OF PHOTODYNAMIC THERAPY (PDT) IN PATIENTS WITH VULVA CANCER
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The vulva cancer is considered to be one of the rare and resistant to treatment tumors of the female reproductive system. A five-year life expectancy depends on the stage of the case and occurs in 98-31% of cases; the recurrence frequency reaches 15-40%.

Clinical trials of PDT of malignant tumors with different localizations have been applied at Moscow Oncological Hospital N62 since 1998. PDT was applied in 15 patients with oncological pathology of a vulva: 5 cases of vulva intraepithelial neoplasia III (VIN III); 5 cases of in situ vulva cancer, and 5 cases of III-IV stage cancer. The
group of patients with VIN III and early vulva cancer included elderly women (maximal age - 91 year old) with heavy accompanying pathologies. PDT was performed with photosensitizers Photogem (derivative of hematoporphyrine), Photosense (sulphonated AL-phthalocyanine) and Alasense (5-aminolevulinic acid). The density of irradiation power for PDT sessions (wavelength - 630, 635 and 670 nm) varied from 50 to 150 J/cm².

After Alasense-PDT application in patients with VIN III a complete tumor regression was obtained in 80% of cases. After PDT partial regression was achieved in all cases of III-IV stage vulva cancer.

It has been revealed that efficiency of PDT application in patients with vulva cancer correlates directly with the size and depth of tumor invasion. No any toxic reactions or complications have been revealed in all the cases.

0486 EVALUATION OF SENTINEL LYMPH NODE (SLN) PROCEDURE IN CERVICAL CANCER
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Background and Aims: Prospective study on SLN biopsy in cervical cancer patients, using radioactive technetium and blue dye technique.

Methods: 24 patients with histologically proven cervical cancer FIGO stage Ib1 (16), Ib2 (3), IIa (2), IIb (3)- underwent SLN detection. One patient had suspect nodes on CT, 5 on MRI. All patients underwent a complete pelvic lymphadenectomy. Final pathologic evaluation of SLN included serial step sections and wide spectrum cytokeratin immunohistochemical analyses.

Results: Histology showed 19 squamous and 5 adenocarcinomas. Eight patients underwent prior conisation and 8 received neo-adjuvant chemotherapy. A Wertheim-Meigs procedure was performed in 23 patients and a re-conisation in 1.

All patients received Tc-99-nanocolloid, 13 the day before surgery, 2 preoperatively on day of surgery, and 9 during surgery. In 13 of 15 patients who underwent lymphoscintigraphy, at least one sentinel node was found. Blue dye technique was performed in 14 patients, with identification of at least one blue node (10), no blue node (1) or unknown (3).

During surgery using the gamma probe a SLN was detected in 92% of the patients. A total of 53 SLNs were removed, all histologically negative (mean 2.2/patient). SLN’s were found in the internal iliac region (14), parametrium (4), presacral (1) or unknown (11). Final pathology revealed no positive nodes in SLN negative patients.

Conclusion: Detection of SLN in cervical cancer with pre- or per-operatively injected radiocolloid is feasible. Blue dye technique seemed less reliable. In our 24 patients a SLN was found in 92%. There were no false negatives.

0487 LAPAROSCOPIC PELVIC LYMPHADENECTOMY IN THE PRE-TREATMENT EVALUATION OF WOMEN WITH EARLY CERVICAL CANCER
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Background: Combined treatment for early cervix cancer with radical surgery and radiotherapy is associated with a high complication rate. We used laparoscopic pelvic lymphadenectomy to triage prospectively women with early cervix cancer to reduce the need for dual therapy.

Methods: All women who underwent laparoscopic pelvic lymphadenectomy prior to definitive treatment for cervix cancer till 30/9/05 were identified.

Results: Sixty-five women with cervical cancer were identified. 6 patients requesting fertility-sparing surgery had a Dargent procedure and the remaining patients had lymphadenectomy followed by completion radical hysterectomy if nodes were negative. The median age was 34 years with a BMI from 18.2-41.4Kg/M2. Stage IB1 disease was present in 59 cases, 4 with stage IB2 and 2 had stage 2A. Eleven women had significant co-morbidities. No conversions from laparoscopy were required. Two women received blood transfusions post operatively. The median number of nodes retrieved was 21. Eleven out of 65 women (17%) had lymph node metastasis by H&E staining or immunohistochemistry (IHC). Eight women had primary chemo-radiation. One woman with multiple positive nodes defaulted from her radiotherapy treatment. Two women (initially judged to have negative lymph nodes on H&E staining) were positive on IHC and received RT. Of the fifty-four women with negative lymph nodes, eight were given adjuvant therapy, 3 due to adverse histology (neuro-endocrine or clear cell tumour), 2 due to parametrial disease with LVI and 4 with close margins.

Conclusions: Triage with laparoscopic lymph node dissection is both safe and effective.

0488 CLINICAL OUTCOME IN LOCALLY ADVANCED CERVICAL CANCER FOLLOWING SURGICAL STAGING WITH LAPAROSCOPIC PARA-AORTIC LYMPH NODE SAMPLING
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Background and Aims: Laparoscopic para-aortic lymph node sampling (LPLNS) helps to determine the extent of irradiation field in locally advanced cervical cancer (LACC). However, its impact on clinical outcome is not well known.

Methods: Up to January 2004, a case-control retrospective study was undertaken to compare the outcome in LACC with (group A) or without (group B) LPLNS during the year 1993 to 2000 in our hospital.

Results: In both groups (median age 56 in A and 68 in B, squamous in 57 of A and 64 of B), there were 68 patients (25 stage IB2, 3 IIIA, 39 IIIB, and 1 IVA), respectively. The case number of disease progression (27 in A, 31 in B) or mortality (32 in A, 31 in B), and the median progression-free interval in relapsed cases (10 months in A, 13 in B) were similar in both groups during the follow-up (median 14 months in A, 26 in B). The initial sites of recurrence were similar, except for in A (17 in A, 13 in B) or mortality (32 in A, 31 in B), and the median progression-free interval in relapsed cases (10 months in A, 13 in B) were similar in both groups during the follow-up (median 14 months in A, 26 in B). The initial sites of recurrence were similar, except for intra-abdominal carcinomatosis (6 in group A and 0 in B). However, the median interval to mortality was significantly shorter in group A (11 months) than in group B (24 months) (P < 0.05), irrespective of the para-aortic node status. Subsequent bowel surgery was required in 4 patients in each group, and 1 lymphedema and 1 neck emphysema were noted in group A.

Conclusions: Our preliminary data suggests that surgical staging with LPLNS in LACC is not associated with better clinical outcome.

0489 DOES A LETZ PROCEDURE IMPACT ON A WOMAN’S RETURN TO SEXUAL INTERCOURSE
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**Introduction:** Women attending the Colposcopy clinic at the Edinburgh Royal Infirmary are given both verbal and written information advising the return to sexual intercourse at four weeks. This abstract reflects the initial results of a prospective audit investigating whether a LETZ procedure at Colposcopy impacts on a woman’s return to sexual intercourse.

**Method:** Among 120 women had been identified.

**Results:** To date 120 women indicated prolonged vaginal bleeding of greater than one month.

24% of women indicated treatment with antibiotics for a "foul discharge".

16% of women indicated a subjective alteration to their periods.

The average time to resume sexual relations with their partner was 6.3 weeks (2-16 weeks).

40% indicated that sexual relations had not yet returned to the pre LETZ level.

Of these women the main reasons given for delay in returning to pre LETZ sexual relations are fear of: Pain, Recurrence, Bleeding and it was also used as an excuse to avoid sexual intercourse in a further proportion of women.

**Conclusions:** The impact of a LETZ procedure on a woman’s return pre LETZ sexual level affects approximately 40% of women.

Future patient literature should specifically address these fears.

Over a quarter of women required treatment with antibiotics for a foul discharge this requires further investigation.

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**SURGICAL DEBULKING OF LYMPH NODES IN PATIENTS WITH CERVICAL CANCER**

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**Background and Aims:** Surgical debulking of enlarged lymph nodes prior to (chemo) radiation therapy in patients with cervical cancer appears to be controversial. The aim of this study was to analyze recurrence patterns and survival in cervical cancer patients with surgically debulked lymph nodes.

**Methods:** From 1994 to 2004 35 patients with cervical cancer had resection of bulky lymph nodes (>3 cm), detected either at the time of radical hysterectomy (radical procedure aborted) or by computed tomographic (CT) scan or magnetic resonance imaging (MRI) scan of the pelvis and abdomen prior to (chemo) radiation therapy. Retrospective analysis was performed on data of surgery, (chemo) radiation, recurrence and survival.

**Results:** The mean age of the patients was 40 years (24-69). FIGO stage distribution was 14/35 (40%) stage IB1, 12/35 (34%) IB2, 4/35 (11%) IA2, 2/35 (6%) IIb, 3/35 (9%) IIIB. Following lymph node debulking patients received either radiation therapy (n = 15) or combined chemotheraphy and radiation therapy (n = 12), radiation and hyperthermia (n = 4), or chemoradiation and hyperthermia (n = 1). Median follow-up was 22 months. Nineteen patients had recurrent disease (pelvic side wall (n = 8), central pelvic (n = 4), distant metastasis (n = 8)/other (n = 6)). The 5-year survival was 45% and the 5-year disease free survival was 38% which appears to be favourable compared to previously reported rates in patients without resection of enlarged lymph nodes.

**Conclusion:** Surgical debulking of enlarged lymph nodes in cervical cancer patients is possibly of survival benefit especially for those with a poor prognosis because of bulky lymph nodes which can not be controlled by standard radiation therapy.

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**NADROPARINE ACTIVATED FIBRINOLYSIS AND RENAL FUNCTION IN PATIENT WITH STAGE IIB-IIIB CERVICAL CANCER TREATED WITH RADIOTHERAPY**

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**Aims:** 1) Evaluation of the influence of haemostatic disorders on renal function in patients with stage IIB-IIIB cervical cancer treated with radiochemotherapy. 2) Developing methods of improving renal function in this group.

**Methods:** Treatment design assumed the administration of a total radiation dose of 46-65 Gy and, additionally, cisplatin 40 mg/m2 every 7 days in patients with normal plasma creatinine level. Renal function was assessed with dynamic scintigraphy with glomerular filtration rate (GFR) evaluation. Analysis of serum haemostatic system covered: D-dimers, PAI-1, IPA, F1 + 2, TAT. The patients were divided into two groups: the study group – i.e. patients with affected GFR and the control group – patients with normal renal scintigraphy results. Half of study group was received nadroparine in a dose – 2850 units aXa/0.3 ml every 24 hours during and 6 weeks after the treatment.

**Results:** There are significant decreasing of GFR in control (median -22.5%) and study group without nadroparine (median -9.9%). In study group with nadroparine the increasing of GFR (median 22.5%) was noted (p = 0.0011). Serum haemostatic system analysis showed activation of fibrinolysis in patients treated with nadroparine and fibrinolysis inhibition in patients without nadroparine.

**Conclusions:** 1) One of the reasons of subclinical renal insufficiency in patients with advanced cervical cancer may be the inhibition of fibrinolysis with glomerular thrombosis. 2) This insufficiency increasing after the end of radiochemotherapy in patients as well with normal GFR as with primary decreasing GFR. 3) The application of nadroparine caused fibrinolysis activation, and increasing of GFR.

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**IMPACT OF HISTOPATHOLOGY ON SURVIVAL OF IN-SITU AND INV ASIVE CANCERS OF THE CERVIX**

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**Purpose:** Estimate survival associated with tumor type.

**Methods:** Selection: women under active follow-up for histologically confirmed primary cervical neoplasm from the 9-registries of the Surveillance, Epidemiology, and End Results (SEER 2005). Overall survival (OS), cause specific survival (CSS) Kaplan-Meier estimates, and multivariate Cox models (also including age, marital status, race, tumor size, grade, numbers of removed and positive nodes, node ratio, stage, extent of surgery, radiotherapy) were computed for histopathological subgroups with at least 100 cases.

**Results:** In-situ histopathologies: no significant differences (P = 0.136). 10-year OS [standard error; number of cases] were: epithelial tumor not otherwise specified (NOS) 96.4% [0.3%; n = 4602], squamous 95.1% [0.6%; n = 1592], cervical intraepithelial neoplasia 96.2% [0.6%; n = 1733], 10-year CSS were respectively 99.8%, 99.8%, 100%. Invasive histopathologies: significant by univariate and multivariate analyses (P < 0.0001). Figure shows OS by histopathological group. 10-year OS were: squamous cell carcinoma (SCC) microinvasive 90.6% [0.6%; n = 2910], carcinosarcoma 71.1% [1.2%; n = 1688], endometrioid carcinoma 68.9% [4.6%; n = 198], adenoendometrioid carcinoma 61.5% [0.6%; n = 3302], papillary adenocarcinoma 58.9% [2.8%; n = 348], SCC nonkeratinizing 54.9% [1.1%; n = 2692].
THE CLINICAL SIGNIFICANCE OF ATYPICAL GLANDULAR CELLS (AGC) ON CERVICAL CYTOLOGY

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Aim: The aim of this study was to assess the clinical significance of a cytologic diagnosis of atypical glandular cells (AGC). We determined the rate of an atypical glandular cells (AGC) among the patients who underwent the cervical screening cytology and the incidence of clinically significant lesion on subsequent follow up biopsies.

Methods: A total of 60,174 Pap smears were obtained between 2000 and 2005 at Ewha Womans University Mokdong Hospital. Among those smears, 26 (0.04%) patients showed the results of AGC. Follow up including cervical biopsy, endocervical curettage (ECC), and/or endometrial biopsy (EMB) was performed for 23 patients (0.038%).

Results: Among 23 patients with AGC, eight of 23 patients (34.8%) were found to have a clinically significant malignant lesions on subsequent histologic follow up. Seven patients had glandular lesions (2 endometrial adenocarcinoma cases, 1 cervical adenosquamous cell carcinoma case, 1 cervical adenosquamous carcinoma, 2 vault adenocarcinoma cases, 1 MMT case). One patient had a squamous lesion (1 squamous cell carcinoma case). There was a difference in the incidence of malignant lesions between premenopausal women (4/17, 23.5%) and menopausal women (4/6, 66.8%) with a marginal significance (p = 0.057).

Conclusions: Although the incidence of AGC was revealed to be low (0.04%) in the current study, the patients diagnosed as AGC on screening cytology had a substantial risk for glandular or squamous malignant lesions. Therefore more aggressive work up and close follow up are necessary in the patients showing AGC on screening cytology.

PROPORTION OF CD4+ CD25+ REGULATORY T LYMPHOCYTE IN PERIPHERAL BLOOD OF PATIENTS WITH CERVICAL CANCER

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Objective: This study was performed to investigate the proportion of CD4 + CD25 + high regulatory T cell (Tregs) in Peripheral blood (PBLs) in patients with cervical cancers compared with patients with CIS of cervix and healthy women.

Methods: Ten patients with cervical cancer, 10 patients with CIS of cervix, and 10 healthy women were enrolled in study group, at department of Obstetrics and Gynecology, Asan Medical Center, Seoul, Korea, from March 2005 to September 2005. They were diagnosed at same center at first, and never been treated any therapy. We measured the proportion of Treg cell that co-express CD4 and CD25 in the peripheral blood lymphocytes by flow cytometric analysis.

Results: In cervical cancer patient (n = 10), CIS of cervix (n = 10) and healthy women (n = 10), the proportion of CD4 + CD25+ high Tregs was 4.53% (SD 2.30), 0.71% (SD 0.86) and 0.87% (SD 0.57) of the total CD4 + cells respectively. The proportion of CD4 + CD25 + high T cells was significantly higher in cervical cancer patients compared with healthy women (p = 0.00) and patients with CIS of cervix (p = 0.00). But there was no significant difference in proportion of CD4 + CD25+ Tregs comparing with healthy women and patients with CIS of cervix (p = 0.599). Also there was no significant difference in proportion of CD4 + CD25 + high T cells (p = 0.059) and CD4 + CD25+ Tregs (p = 0.29) between healthy women and patients with CIS of cervix.

Conclusion: Our data suggested that the high proportion of regulatory T cells might play a role in modulation of the immune response against cervical cancer could be important in design of immunotherapeutic approaches.

DEVELOPMENT OF NOVEL HPV GENOTYPING CHIP SYSTEM USING ELECTROCHEMICAL CHIP AND NON-PCR AMPLIFICATION TECHNOLOGY

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Background and Aims: Human papillomavirus (HPV) infection is the main cause of cervical cancer, and the risk of each HPV type for carcinogenesis has been investigated. The HPV genotype has been analyzed using PCR-RFLP and/or PCR-sequencing. We developed a novel HPV genotyping DNA chip system that can determine 13 types of high-risk HPV within 3 hours using electrochemical chip and LAMP (Loop-Mediated Isothermal Amplification) method.
Methods: We collected cervical smear samples from 52 patients with abnormal cervical cytology at University of Tsukuba Hospital. DNA were extracted from each samples with a QiAamp and then target HPV DNA was amplified in four tubes using LAMP method with specific primers for 13 HPV types. Four amplified products in each sample were mixed and applied to the electrochemical chip. The DNA chip system can identify target HPV DNA by electrical signal indicating specific bind of the target DNA to immobilized probes on the gold electrode of chip surface. The protocol was approved by the IRB of the hospital.

Results: HPV genotypes determined by the DNA chip system were compared with PCR-sequencing method using specific primers for 13 types. HPV positive rate was 78.8% (41/52) in the DNA chip system and 82.7% (43/52) in the PCR method. The genotyping of HPV positive samples was 95.3% concordant with the PCR-sequencing method.

Conclusions: The DNA chip system can rapidly determine 13 types of high-risk HPV in clinical samples with high sensitivity and great accuracy.

ATTITUDES TOWARDS THE USE OF HPV VACCINE AMONG YOUTH

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Human Papillomavirus (HPV) is required for the cervical carcinoma development and prevention of infection via the newly developed HPV vaccine could become an important mean to prevent cervical carcinoma. Vaccination to children before sex debut appears to provide the best possible benefit and we want to find out if the use of vaccine is well accepted by youths and whether education material has a positive impact on the uptake rate.

Grade 8 students were invited to participate in the survey and answered 43 questions. Knowledge relating to cervical carcinoma and HPV as well as their attitude towards the use of vaccine before and after reading a 1-page educational pamphlet were studied.

207 students were recruited and 94.6% of them were 13- or 14-year-old. Over 80% of them did not know what HPV and the vaccine were. 54.1 and 39.6% supported whilst 4.3 and 11.6% objected the use of vaccine in girls and boys respectively. Over 40% of the respondents did not have an opinion mostly because insufficient knowledge about the vaccine. After reading the educational materials, the support on the use of vaccine in girls and boys increased to 65 and 48% respectively.

The major obstacle of accepting the HPV vaccine usage is lack of knowledge. Simple educational pamphlet has a significant influence on the uptake of vaccine but the rate of increase is small.

IDENTIFICATION OF HIGH RISK CERVICAL CARCINOMA PATIENTS BY LAPAROSCOPIC ULTRASONOGRAPHY

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Nodal metastasis represents the single most important poor prognostic factor for cervical carcinoma. We studied the use of laparoscopic USG to look for enlarged pelvic and para-aortic nodes and determine whether positive scan findings increased risk of death. Laparoscopic USG was performed after the patient was put under General anaesthesia for examination and cystoscopy. Enlarged nodes were removed for histological confirmation. Radical surgery was cancelled if nodal metastasis was confirmed and radiotherapy became the treatment of choice. For patients with advanced disease and scheduled for primary radiotherapy treatment, lymph node biopsy was not done if no enlarged nodes were found. Patients were followed up for the clinical outcomes.

Among 110 patients scheduled for radical surgery, 88 were scan negative (S-) and 22 were scan positive (S+). S+ group had a significantly worst 5-year survival rate compared to S- group. Among 81 patients scheduled for radiotherapy, 38 were S- and 43 were S+. There was no difference in 5-year survival between the two. Low Risk Group was formed by pooling the 38 S- patients with 13 false S+ identified by lymphadenectomy and negative frozen section had a significantly better survival compared to High Risk Group consisting 30 S+ patients with confirmed nodal metastasis. Inflammatory changes were more likely to occur with large cervical tumour and advance stage disease. High false positive scan undermined the power of laparoscopic USG findings when use alone to predict poor clinical outcomes.

CYTOTOXIC EFFECTS OF THE BELOTECAN IN THE CERVICAL CANCER CELLINES

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Introduction: Camptothecin is an alkaloid derivative that kills cancer cells by specific inhibiting of Topoisomerase-I in S-phase of cell cycle. In our domestic market, Belotecan is newly introduced recently. It is the first time introducing 1st line antitumor agent in Korea. Belotecan has many advantages compare to other camptothecin derivatives. First of all, it has improved water solubility. Secondly, it has fewer side effects like severe diarrhea or GI bleeding. Thirdly, the therapeutic range of this drug is superior to others. Finally it has more potent efficacy than other derivatives.

In this study, primary focus is clinical evaluations of effectiveness of belotecan on cervical cancer

Methods: Cervical cancer cell line, HeLa and Caski was used. Belotecan applied on both cell lines and checked whether it has anti-tumor effect on cancer cell by using MTT assay. DNA fragmentation and western blot was performed to confirm cell apoptosis. Also Microarray and RT PCR were serially carried out in order to identify responsible genes for apoptosis.

Result: Inhibition of Cervical cancer cell proliferation is noted on the Belotecan applied cell line. Also Apoptotic pathway and genes that are related with Belotecan activities are identified.

Conclusion: The first domestically introduced 1st line antitumor agent, Belotecan shows its excellent inhibiting action on Cervical cancer cell proliferation as well as on Ovarian cancer cell proliferation in this study. This finding suggest that Oncogenesis is not only involved with Apoptotic pathway failure but also involved DNA repair.

NEOADJUVANT CHEMOTHERAPY IN STAGE IB2 – IIB CERVICAL CANCER: AN ANALYSIS OF 153 CASES

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Background and Aims: The value of radical surgery and radiotherapy in the management of cervical cancer has been well established. Recently, neoadjuvant chemotherapy has been integrated with conventional therapy to decrease tumor size, reduce
micrometastasis, make possible to operate unresectable tumor and ultimately, improve survival. This study was purposed to evaluate the efficacy of neoadjuvant chemotherapy in management of stage IB2–IIB cervical cancer.

Methods: A retrospective study was conducted on 153 patients with bulky or locally advanced cervical cancer (FIGO stage IB2-IIB) from Jun, 1988 to Dec. 2000. All were treated with neoadjuvant chemotherapy followed by radical hysterectomy. Regimen of neoadjuvant chemotherapy was three courses of combination chemotherapy with cisplatin and 5-FU. Three weeks after the last course of chemotherapy, patients underwent a type III Wertheim radical hysterectomy and bilateral pelvic lymphadenectomy.

Results: Clinical responses occurred in 85.6% of patients, including 13.1% with a clinical complete response and 7.2% with a pathologically determined complete response. For a mean follow up period of 99 months, the overall 5-year survival rate was 74.5%. Clinical response (p < 0.0001), depth of stromal invasion (p < 0.0001), and lymph node metastasis (p < 0.0001) were significant prognostic factors by univariate analysis. Clinical response (p = 0.0086), FIGO surgical stage (p = 0.0354), depth of stromal invasion (p = 0.0192), and lymph node metastasis (p = 0.0053) were significant independent prognostic factors by multivariate analysis.

Conclusions: The responsiveness of cervical cancer to neoadjuvant chemotherapy may allow surgical treatment in a larger number of patients and result in longer overall survival.

0500
HEMOGLOBIN VARIATION IN PATIENTS AFFECTED BY LOCALLY ADVANCED CERVICAL CANCER TREATED WITH NEOADJUVANT CHEMOTHERAPY FOLLOWED BY RADICAL SURGERY
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Background and Aims: The objective of this present trial was to evaluate the effect that the introduction of erythropoietic growth factors in the routine clinical practice had in the management of anaemia and blood transfusions in locally advanced cervical cancer patients treated with neoadjuvant chemotherapy followed by radical surgery.

Methods: Blood chemistries, prospectively recorded from ninety-eight cervical cancer patients, treated with neoadjuvant chemotherapy after the clinical introduction of erythropoietic growth factors, were compared to a matched control. A separate analysis comparing anemic to non anemic patients was carried out.

Results: Hemoglobin level in the study group did not differ significantly during chemotherapy. At the third cycle of chemotherapy and at the end of chemotherapy, hemoglobin level were significantly higher in the study group compared with the control group. Transfusion rates in the study group were significantly lower (p = 0.0053) compared with those of laprotomy group, the number of lymph nodes and the rate of perioperative and postoperative complications were similar in both groups. The mean surgery duration and the median length of hospital stay was significantly shorter in patients treated by laparoscopic surgery. The Five year recurrence-free survival rates were 94.8% in the LRH group and 96.6% in the RH group respectively (p = 0.124).

Conclusions: Laparoscopic surgery for treatment of early cervical cancer is a safe and effective alternative to conventional abdominal radical hysterectomy. The complications related to surgery were decreased after substantial learning period.

0501
COMPARATIVE STUDY OF LAPAROSCOPIC RADICAL HYSTERECTOMY AND ABDOMINAL RADICAL HYSTERECTOMY IN PATIENTS WITH EARLY CERVICAL CANCER
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Objectives: To compare the outcomes of patients treated by laparoscopic radical hysterectomy (LRH), to those of patients treated by conventional abdominal radical hysterectomy (ARH) and to analyse complications and survival over the time period.

Methods: From 1997 to 2004, 185 cases of LRH with PLAT (pelvic lymphadenectomy) + paraaortic lymph node sampling were performed in patients with stage IA (n = 38), stage IBI (n = 140), stage IB2 (n = 6) and stage IIA (n = 1). As a control, 142 ARH patients with stage IB1 were selected. To compare the outcomes, the patients were divided into two period groups: 1997-2000 and 2001-2004.

Results: When patients with stage IB1 of laparoscopic group were compared with those of laprotomy group, the number of lymph nodes and the rate of perioperative and postoperative complications were similar in both groups. The mean surgery duration and the median length of hospital stay was significantly shorter in patients treated by laparoscopic surgery. The Five year recurrence-free survival rates were 94.8% in the LRH group and 96.6% in the RH group respectively (p = 0.124). Considering the time period, the mean duration of surgery was significantly shorter and the number of lymph nodes obtained were also significantly more in the second time period. Eight (8/65) cases of major complications occurred during the first period, compared to five (5/120) during the second period.

Conclusion: Laparoscopic surgery for treatment of early cervical cancer is a safe and effective alternative to conventional abdominal radical hysterectomy. The complications related to surgery were decreased after substantial learning period.

0502
PROGNOSTIC FACTORS FOR LYMPH NODE METASTASIS IN SQUAMOUS CELL CANCER OF THE VULVA (VSCC)
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Background and Aims: Lymph node metastases (LNM) are the most important prognostic factor in VSCC, traditional management involves removal of the primary tumour and regional inguinal lymph nodes for patients with more than 1mm depth of invasion (DOI). Lymphadenectomy often results in significant morbidity and a review of the frequency of LNM was therefore conducted in two cancer centres according to standard clinicopathological criteria.

Methods: Retrospective case note and pathology review.

Results: 338 patients were reviewed; mean age at diagnosis was 66 years (15-103). Data was available for 183 patients who had lymph node sampling; 152 lymph node biopsy, fine needle aspirate, or debulking of enlarged nodes. 33.8% of patients had LNM. (see table)

Conclusions: Patients are at increased risk of lymph node metastasis with increasing depth of invasion and tumour size, presence of vessel or perineural invasion, and worsening differentiation of VSCC. The omission of lymphadenectomy in patients with less than 1mm depth of invasion appears to be safe, however even patients with
small, well differentiated tumours with no LVSI/VI/PNI are at risk of LNM and therefore require lymph node assessment.

**Objective:** To compare the diagnostic accuracy of magnetic resonance(MR) imaging including diffusion weighted image with PET/CT with FDG for detecting metastatic lymph nodes in patients with cervical cancer.

**Materials and Methods:** From November 2005 to March 2006, MRI with diffusion weighted image was performed before pelvic and/or paraaortic lymphadenectomy in 50 patients with cervical cancer. Among them, PET/CT was also performed in 24 patients. The findings of MRI and PET were compared with histologic findings.

**Results:** MR imaging visualized historically proven lymph node metastases in 50 patients with a sensitivity of 47.1%, a specificity of 93.9%, a positive predictive value(PPV) of 80.0%, a negative predictive value(NPV) of 77.5%, and an accuracy of 78.0% (P = 0.019). In case of PET/CT in 24 patients, lymph node metastases were detected with a sensitivity of 22.2%, a specificity of 93.3%, a PPV of 66.7%, a NPV of 66.7%, and an accuracy of 66.7% (P = 0.531). Also metastatic lymph nodes were identified at MRI with a sensitivity of 33.3%, a specificity of 93.3%, a PPV of 75.0%, a NPV of 70.9% and an accuracy of 70.9% (P = 0.283) in the same 24 patients. There was no significant difference in the accuracy between MR and PET/CT. The mean diameters of undetected metastatic lymph nodes in MRI and PET/CT were 6.2 mm and 14.6 mm respectively (P = 0.021).

**Conclusion:** The PET/CT might not have a beneficial effect over MRI on detecting metastatic lymph nodes in patients with cervical cancer. Considering the results, these imaging modalities might not replace lymphadenectomy for confirming lymph node metastases.

**0505**

**ACCURACY OF ACETIC ACID 5% IN EARLY DETECTING OF CERVICAL DYSPLASIA**

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**Background:** The cervical carcinoma arises from a non invasive dysplasia, so diagnosis and treatment in this stage could prevent from progressing to invasive and malignant stage. A diagnostic trial was conducted to determine accuracy of acetic acid 5% in early detecting of cervical dysplasia.

**Methods:** In family planning and gynecologic clinic in bagher abad health center and mirsa kochak ghan hospital. Women underwent acetic acid 5% test after acquired consent. 100 women with positive test (aat group) and 100 women with negative test (aa group) were compared group randomly selected for study. Cytology and colposcopy examination were done for all of them.

**Result:** 9 cases in aa-group and 2 cases in aa-group had abnormal cytology, which 7 cases (form aa + group) had abnormal biopsy and remaining were normal. 95 cases (71%) in aa + group and 3 case (12%) in aa-group have shown dysplasia in biopsy results. In this study sensitivity, specificity, positive and negative predictive value of acic acid test was 95.7%, 44%, 70.5% and 88% respectively and so for cytology test was 10%, 92%, 63.6% and 42.2%.

**0506**

**FREQUENT DETECTION OF MULTIPLE HPV GENOTYPES IN INVASIVE CERVICAL CANCER TISSUES BY A NEWLY-DEVELOPED DNA ARRAY**

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**Aims:** To investigate the prevalence of multiple HPV types in freshly-frozen cervical cancer tissues of Japanese women.

**Methods:** Genomic DNA was isolated from freshly frozen tissues of 60 invasive cervical cancers of Japanese women. PCR was...
performed using mixture of 25 different sets of primers and genomic DNAs as templates. Biotinylated PCR product was hybridized with a membrane array to detect positive signal. HPV status was studied in relation to clinicopathologic factors.

**Results**: Among 60 samples, 58 samples (96.7%) were positive for HPV. The three common types were 16 (50/60–83.3%), 18 (27/60–45.0%) and 52 (17/60–28.3%). Type 52 and 58 were observed in cases of squamous cell carcinoma (Sq) alone. The prevalence of type 18 was statistically more frequent in adenocarcinoma (Ad)/adenosquamous carcinoma (Ad-Sq) (14/18, 77.8%) than in Sq (13/42, 31.0%) (p = 0.0008). Multiple high-risk (HR)-HPV infection was observed in 42 cases (70.0%). 12 of 42 cases (28.6%) in Sq showed more prevalent among younger patients (<40 years) (14/15 = 93.3%) than older patients (>=40 years) (28/45 = 62.2%) (p = 0.025). There is no significant correlation between multiple HR-HPV infection and other clinicopathological factors, including clinical stage and lymph node metastasis.

**Conclusion**: A newly-developed HPV-DNA array system is a sensitive method to detect and genotype HPV in invasive cervical cancer. Multiple HPV infection might be frequent in invasive cervical cancer of Japanese women.

**0507**

**PEGYLATED LYSOSOMAL DOXORUBICIN IN PATIENTS AFFECTED BY ADVANCED OR RECURRENT CERVICAL CANCER**

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**Background and Aim**: To evaluate the efficacy of Pegylated Liposome Doxorubicin in patients affected by advanced/recurrent cervical malignancies scheduled for palliative chemotherapy.

**Methods**: Patients not previously subjected to radiation therapy affected by progressive or recurrent inoperable cervical cancer with measurable disease and adequate organ function, were treated with pegylated liposomal doxorubicin 40 mg/mq intravenously 1 hour every 4 weeks.

**Results**: Thirty-seven patients were enrolled in this study. Sixteen patients suffered a disease progression/stable disease after neoadjuvant chemotherapy, whereas the remaining patients suffered a disease recurrence after radical surgery. In the first group two clinical response, twelve steady disease and two progressions were observed. In the latter group, one complete clinical response, six partial clinical response, thirteen steady disease and one tumour progression were recorded. Median number of chemotherapy cycle was 5 (range 1-8). Median progression free survival and overall survival was 6 (1-10) months and 15 (3-41) months respectively. No grade 4 toxicity was reported.

**Conclusion**: A Pegylated Liposome Doxorubicin shows a moderate activity in not previously irradiated advanced or recurrent cervical cancer patients.

**0508**

**CONTINENT ILEOCOLONIC URINARY DIVERSION (ROME POUCH) FOR GYNECOLOGIC MALIGNANCIES: TECHNIQUE AND FEASIBILITY**

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**Background and Aims**: The ideal continent urinary diversion should have certain characteristics, including excellent continence, adequate capacity, a low-pressure system, minimal metabolic problems, preservation of upper urinary tract anatomy and renal function, an acceptable complication rate and surgical simplicity. The present study reports a new technique of ileo-colonic urinary diversion (Rome pouch technique) in patients affected by advanced or recurrent gynecologic malignancies.

**Methods**: Between February 1999 and March 2006 consecutive patients, affected by advanced or recurrent gynecologic malignancies, who underwent a continent ileocolonic urinary diversion (Rome pouch technique) were included in the study. Parameters that were evaluated during the study period include functional outcomes, intraoperative and early perioperative complications.

**Results**: Thirty-five patients entered the study. Nineteen (54%) patients were previously radiated, whereas 16 patients (46%) were not. Twenty-three (76%) and 12 (34%) patients were submitted to anterior and total exenteration respectively. However 15% and 85% were infra-elevator and supra-elevator respectively. The average operative time to complete the procedure was 245 minutes (range, 210-395). No intraoperative death was reported (intraoperative mortality rate 0%). However, average blood loss was 1900 ml (range, 400-3600 ml). During the early postoperative period 2 (early postoperative mortality rate, 5.7%) patients died of complications. Concerning medical complication, the overall postoperative complication rate was 57%. Related urinary diversion early complication, the overall rate was 45%.

**Conclusion**: The continent ileocolic urinary diversion (Rome pouch) technique showed to be simple and effective in patients affected by advanced or recurrent gynecologic malignancies, and associated with a low incidence of major complications.

**0509**

**ALTERED EXPRESSIONS OF EMMPRIN IN CERVICAL CANCER: A NOVEL PROGNOSTIC MARKER FOR PROGRESSION**

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**Background and Aims**: Overexpression of extracellular matrix metalloproteinase inducer (EMMPRIN), a member of the immunoglobulin superfamily and a glycoprotein enriched on the surface of tumor cells, is linked to invasion, metastasis, growth and survival of some malignant cells. But the association has not been demonstrated in patients with cervical cancer. We here investigated the altered expression of EMMPRIN along the progressions of cervical cancer from pre-invasive disease to invasive cancer, from primary tumor to metastatic lymph nodes, and in primary tumor before and after radiotherapy.

**Methods**: Expression of EMMPRIN was examined by immunostaining in 21 patients with chronic cervicitis, 23 CIN3, 82 invasive cervical cancer and 21 corresponding metastatic pelvic lymph nodes, 79 primary cervical tumors before and after intracavitary radiation with a dose of 20 Gy.

**Results**: Positive expression of EMMPRIN correlated significantly with disease progression from chronic cervicitis (2/21), CIN3 (8/23) to invasive cancer (76/82) (p < 0.01). The positive rates of EMMPRIN expression in metastatic lymph nodes was (17/21). Significantly reduced expression of EMMPRIN was seen in tumor after radiotherapy compared with corresponding tumor before radiotherapy (p < 0.001). And patients without reduced expression of EMMPRIN seemed having unfavorable prognosis.
Conclusion: EMMPRIN plays an important role in progression of human cervical cancer and EMMPRIN may be a novel prognostic marker of poor outcome for the patients accepted radiotherapy with invasive cervical cancer.

0510
INDICATION AND EXPECTED FINDINGS OF FDG-PET FOR RECURRENT CERVICAL CANCER
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Background and Aims: We try to answer (1) How does the performance of FDG-PET, compare to that of CT/MRI in detection of recurrence, among which patient populations? (2) Does addition of FDG-PET to CT/MRI show positive impact to following management, and finally, benefit outcome of treatment?

Materials: PubMed search of the Medline database was conducted until April 11, 2006.

Results: 12 original articles, published between 2000 and 2006, were selected and reviewed. A total of 758 PET studies in 739 patients were included. Pooled indications for PET were patients with any one of: (1) Documented recurrence after conventional survey (2) Presence of recurrent symptoms, suspected radiographic findings or abnormal pelvic exam. (3) Re-elevated serum tumor markers, SCC-Ag or CEA (4) Routine posttherapeutic evaluation in patients with no evidence of recurrence (5) Patient request

Various measures to estimate accuracy, including patient based, lesion based or regional based analyses were applied. The sensitivity ranged 80% - 100%, specificity 57.1% - 97.2% and accuracy, 86% - 97.2%. When compared to the CT/MRI, PET showed a higher sensitivity and significant higher accuracies for mediastinal, para-aortic and pelvic nodes. 15% of patients were falsely downstaged and 16% of patients falsely upstaged by PET. PET tends to discover distant metastases and discourage curative surgical intervention, compared to CT/MRI.

Conclusion: PET showed a higher accuracy in discovering metastatic nodes, as compared to CT/MRI, in patients with suspicion of recurrence. There was no evidence for the benefit of applying PET as a routine for post-treatment surveillance.

0511
SEXUAL DYSFUNCTION IN WOMEN WITH EARLY STAGE CERVICAL CANCER AFTER RADICAL Hysterectomy
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Background: In cervical cancer woman, aside from the effects of disease/treatment on her general health, sexual function is also likely to be affected. We determined the extent of sexual dysfunction in women with early stages cervical cancer who had undergone radical hysterectomy in three institutions in Thailand.

Methods: A structured questionnaire was constructed composed of six domains regarding sexual function: frequency, desire, arousal, lubrication, orgasm, and pain associated with coitus. An interview was conducted by a nurse, who had been trained by the researcher to question each of these items to the cervical cancer women who had sexual activity and intercourse prior to their surgery.

Results: Mean age of 91 women included in the study was 45.7 +/- 8.2 years. Sixty-two women (68.1%) were in pre-menopausal period. Ten out of 91 women (11%) never resumed their sexual intercourse activity; 81 women had resumed their sexual intercourse during 1-36 months post-operation (median, 4 months). Approximately 35-60% of these women had decreased sexual activities of the five domains while pain associated with coitus was increased in approximately 35% of women. Of interest, 60.4% of these cervical cancer women never had information on this aspect from any resources, 23.1% obtained it from other laymen or public media, and only 16.5% had it from medical or paramedical personnel.

Conclusions: Sexual dysfunction may be a problem occurring after cervical cancer treatment. This finding may necessitate the health care providers to address this problem more frequently.

0512
CLINICAL UTILITY OF EXAMINING TUMOR MARKERS AND CYTOKINES IN PATIENTS WITH CERVICAL ADENOCARCINOMA
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Aims: The study aimed to evaluate the potential use of serum levels of tumor markers: SCC, CEA, CA 125, CYFRA 21.1 and cytokines: IL-6, VEGF, to improve the diagnosis of cervical adenocarcinoma.

Methods: Twenty seven untreated patients with cervical adenocarcinoma were examined and compared to 173 untreated patients with squamous cell carcinoma. Concentrations of SCC, CEA, CA 125 were determined using the Abbott instruments system, of CYFRA 21.1 by Roche kits, of IL-6 and VEGF by the ELISA of R&D. For the statistical analysis, Mann Whitney U tests, Kruskall-Wallis tests, Spearman rank correlation methods were applied.

Results: Elevated SCC, CEA, CA 125 CYFRA 21.1, IL-6 and VEGF concentrations in the sera were examined for associations with histological type of cervical cancer. The analysis revealed that CA 125 correlated with histological type, with significantly higher levels in adenocarcinomas versus squamous cell carcinomas (p < 0.05). Serum levels of other tumor markers and cytokines were found not to relate to the histological type of cervical cancer. The diagnostic sensitivity of CA 125 in patients with adenocarcinomas was higher (44%) than that of SCC (30%). Assessment of serum levels of SCC, in combination with CA 125, IL-6 or VEGF improves the diagnostic sensitivity (65%, 86%, 65%, respectively) in cervical adenocarcinoma.

Conclusions: The results suggest that evaluation of CA 125 and, in particular IL-6 or VEGF, complementary to SCC, improves the diagnosis of cervical adenocarcinoma.

0513
BIOCHEMICAL MARKERS OF BONE METABOLISM IN PATIENTS WITH UTERINE CERVICAL CANCER AFTER TREATMENT
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Aims: The aim of this study was to determine bone markers’ profile in patients with cervical cancer after treatment. Biochemical markers of bone remodeling are potentially useful tools not only in the diagnosis and follow-up of patients with malignant bone disease, but also in patients who undergo aggressive treatment, including cervical cancer patients.

Methods: The sera of 54 post-treatment patients with uterine cervical cancer were examined. All tumors were verified histologically. Freshly collected serum samples were examined for the concentrations of PINP, osteocalcin and β-CTX by the Roche kits. The assays were performed as described by the manufacturer, at the median time of 14.2 months after the end of treatment.

Results: In the studied group of 54 patients, elevated serum PINP was found in 20 patients (37%), osteocalcin in 6 patients (11%) and elevated β-CTX in only 1 patient. Out of 20 patients with elevated PINP, 5 were found to have elevated levels of osteocalcin, but the three markers in parallel, including β-CTX, were found elevated in only 1 patient.

Conclusions: Of the bone metabolism markers studied, PINP was the best indicator of high bone turnover in post-treatment cervical cancer patients.

0514
EXPERIMENT STUDY OF THE PROLIFERATION AND APOPTOSIS OF PLATINUM AND PYRIDINE DRUGS ON CERVICAL CANCER XENOGRAFTS
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Background and Aims: To study the proliferation and apoptosis of platinum and pyridine drugs on cervical cancer xenografts.

Methods: The HeLa cells were subcutaneous injected into the female nude mice. The experiment was divided into 8 groups, namely, A: control group, B1: cisplatin, B2: carboplatin, B3: 5-Fu, B4: capecitabine, B5: cisplatin + 5-Fu, B6: cisplatin + capecitabine, B7: carboplatin + 5-Fu. Proliferation cell nuclear antigen (PCNA) was evaluated by immunochemistry and the results were assessed with positive unit (PU) of PCNA. Cell apoptosis was evaluated by terminal-deoxynucleotidyl transferase mediated nick end labeling (TUNEL), and the results were assessed with apoptotic index (AI).

Results: (1) The change of PCNA: the PU value of group B1/B2/B3/B4/B6/B7 was significantly less than that of control group (P 0.05), respectively. Though the PU value of group B1/B4/B5 was significantly greater than that of group B6 (P 0.05), respectively, there was no interaction effect between them by multifactorial analysis. (2) The change of AI: the AI value of group B7 was significantly higher than that of A/B2/B3 (P 0.05, respectively), but there was no interaction effect between them by multifactorial analysis. (3) The change of AI/PU ratio: the AI/PU ratio of the group B7/B5/B2 was significantly higher than that of A and the AI/PU ratio of B7 was significantly higher than that of B1/B6 (P 0.05, respectively).

Conclusion: Carboplatin had similar effect against cervical cancer xenografts in nude mice as compare with cisplatin, so also between capecitabine and 5-FU, but there were only addition effects on combination of platinum and pyridine drugs.

0515
EFFICACY AND SAFETY OF CONCURRENT CHEMORADIO- THERAPY OF PACLITAXEL AND CARBOPlatin AS PRIMARY THERAPY IN PATIENTS WITH ADVANCED CERVICAL CANCER
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Objective: One of the widely used chemotherapy combinations in cervical cancer, 5FU-cisplatin regimen, is associated with significant toxicity and 5-days administration schedule. This study evaluated the efficacy and toxicity profile of concurrent paclitaxel-carcoblatin regimen in the patients with advanced cervical cancer.

Methods: Forty-four patients with FIGO stage IB2-IVb cervical cancer who received concurrent chemoradiotherapy with paclitaxel and carboplatin as a primary therapy from Jan 2000 to Feb 2005 were analyzed retrospectively. Starting doses of paclitaxel-carboplatin were 135 mg/m2 and AUC4.5, respectively, repeated every 28 days. The radiotherapy was initiated concurrently at the first or second day of chemotherapy. Progression-free survival (PFS) and overall survival (OS) was analyzed with Kaplan-Meier method. The toxicities were by NCI-CTC version 2.0.

Results: There was a 38.6% CR and a 47.7% PR rate. The median PFS for the entire group was 31.5 months. 7 patients (15.9%) had died of disease progression. The median OS was 36 months. The 3-year PFS was 68.4%, and the 3-year OS was 81.3%. Common toxicities included: grade 3 or 4 anemia, 10.5%; grade 3 or 4 neutropenia, 7.9%; and paclitaxel hypersensitivity, 7.9%. Nausea and vomiting (23.6%) were most common non-hematologic toxicities but grade 1 usually. There was only 1 patient who complained grade 3 nausea and vomiting.

Conclusions: Paclitaxel-carboplatin is an active combination with radiation in advanced cervical cancer. This combination has less toxic side effects, especially nausea and vomiting devasting patient during chemotherapy. Furthermore, it is comfortable as it needs 1-day administration schedule.

0516
MRI-BASED TUMOR MEASUREMENT BETTER PREDICTS THE PROGNOSIS OF STAGE IB CERVICAL CANCER PATIENTS THAN FIGO MEASUREMENT
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Background and Aims: The aim of this study is to clarify that MRI-based tumor size better predicts the prognosis of cervical cancer patients than conventional colposcopic description.

Methods: We collected the whole medical records and MRI films of cervical cancer patients with stage Ib disease registered in Korea Cancer Center Hospital from 1996 to 2002. Total number of evaluable subjects were 260. One expert radiologist remeasured the tumor size by 3 dimensions in 134 cases. Tumor volume was calculated with an approximate equation, nodal metastasis remained consistently associated with survival in univariate analysis. In multivariate analysis, MRI-based largest dimension, tumor volume calculated with approximate equation, nodal metastasis remained significantly associated with survival in univariate analysis. The median OS was 36 months. The 3-year PFS was 68.4%, and the 3-year OS was 81.5%. Common toxicities included: grade 3 or 4 anemia, 10.5%; grade 3 or 4 neutropenia, 7.9%; and paclitaxel hypersensitivity, 7.9%. Nausea and vomiting (23.6%) were most common non-hematologic toxicities but grade 1 usually. There was only 1 patient who complained grade 3 nausea and vomiting.

Conclusions: MRI imaging of tumor provides accurate prediction of prognosis in cervical cancer and may defines a population of women at high risk of recurrence and death even in same stage disease.
0517

SEBACEOUS TUMOR OF THE VULVA


Department of Gynecology, INCA, Rio de Janeiro, Brazil

Background: Sebaceous carcinoma of vulva (SC) is an extremely rare neoplasm, and reported cases are few.

Objective: Describe the clinical-pathological aspects of the disease.

Methods: A retrospectively analysis of eleven patients with SC is performed, data between 1996-2005; all managed by gynecological oncologists.

Results: Age: Range 37-86, Mean: 60.5 years. Presenting symptoms included: Mass 87.5%, Bleeding 36.5%, Pruritus 25%, Pain 12.5%.

Physical examination: Five women with disease in left labium, 04 bilateral and 02 in the right labium; five women presenting clinically suspicious groin nodes. Only one patient had a previously cancer reported (Cervix cancer). FIGO Stage: Stage I 9.1,%, Stage II 45.4%, Stage III 36.4%, Stage IV 9.1,%. Management: Managed surgically (9/11) 81.8%; Total vulvectomy + bilateral lymphadenectomy (3/9), Hemivulvectomy + unilateral lymphadenectomy (3/9), Hemivulvectomy (3/9). Lymph nodes acquired: Range (2-17), Mean 11,1; positive lymph nodes were found in four patients. Radiotherapy was administered in 04 patients. Two patients had only palliative care. Tumor size: Range 0.5-8.0 cm, Mean 4.1 cm.

Histological Grade: GI 27.3 %, GII 45.4%, GIII 9.1%, Unknown 18.2%. Survival: Overall 23 months. Stage I: 22.2 months, Stage II: Range 4.3-16.3 months, Mean 11.4 months, Median 14.7 months, Stage III: Mean 15.3 months.

Conclusion: This is the biggest series of SC reported in the literature; because of the very small number of cases, new series will be necessary to define the best management and follow-up.

0518

PRE-APPOINTMENT TELEPHONE COUNSELING INCREASES ADHERENCE TO COLOSPIC EXAMINATION AMONG UNINSURED HISPANIC WOMEN

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Objectives: The objectives of this study are to determine the barriers to adherence for follow-up colposcopy among uninsured Hispanic women who have had an abnormal Pap smear, as well as to evaluate the effect of a personalized intervention to increase adherence rates beyond the standard appointment letter.

Methods: Hispanic women age 18 and older referred for colposcopy at the Wake Forest University Comprehensive Cancer Center’s Colposcopy Clinic were eligible to participate in this study. 203 women have been scheduled: 66 received a telephone call conducted in Spanish, which educated women about Pap smears, cervical cancer risk, and colposcopy. 90 women received a Pamphlet outlining the same information. 47 women were in the control group. All women received the standard appointment letter.

Results: Barriers to colposcopy included: fear of what the colposcopy will find, lack of transportation, lack of medical insurance, personal preference for a female doctor, lack of knowledge about the examination, perceptions of pain, no money for co-pay, and lack of English proficiency. The personalized telephone call significantly improved adherence to the colposcopic examination compared to the pamphlet (65% to 16%) or no intervention (65% to 30%), (p<.001).

Conclusions: Interventions to improve patients’ understanding of colposcopy, offering Spanish speaking interpreters, offering women the choice of having a female health care professional, and removing the financial obstacles to colposcopic examination need to be implemented.

0519

SUCCESSFUL PREGNANCY AFTER TREATMENT OF STAGE IB2 CERVICAL CANCER WITH NEOADJUVANT CHEMOTHERAPY, CONIZATION, AND PELVIC LYMPHADENECTOMY

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Background and Aims: It has been reported that radical trachelectomy is performed for women with stage IBl cervical cancer who wish to preserve their fertility potential. However, adequate treatment for these patients is controversial.

Methods: We report a successful pregnancy in a patient who desired conservative management of invasive cervical cancer and was treated with neoadjuvant chemotherapy followed by conization and pelvic lymphadenectomy.

Results: A 29-year-old nulliparous woman was diagnosed with a stage IBl squamous cell carcinoma of the uterine cervix. She received 5 cycles of neoadjuvant chemotherapy (Nedaplatin, Ifomaide, Peplomysin), which produced complete response assessed by CT and MRI. An electrosurgical conization was performed and the pathological examination revealed the residual cervical cancer of stage Ia1. After that, a pelvic lymphadenectomy was performed and the absence of cancer cells was confirmed in the lymph nodes.

Conclusions: Seventeen months later, the patient became pregnant and she is now at 35 weeks of gestation.

0520

DISTRIBUTION OF CERVICAL PREINVASIVE DISEASES IN TURKISH POPULATION AFTER BETHESDA III AT TERTIARY REFERRAL CENTER

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Background and Aim: Screening of the population for cervical cancer is a fundamental issue to detect and treat the patients at preinvasive stage. After the advent of Bethesda systems several different management plans have been introduced in this era. The purpose of this study was to evaluate the distribution of the smear abnormalities and histopathologic diagnoses after the usage of Bethesda III system at a tertiary referral center in Turkey.

Methods: The patients who underwent colposcopic evaluation and directed biopsy at Gazi University Hospital between 2001 and 2006 were documented. Since our department is a center of education, all the patients were examined by colposcopy. Data were obtained from patients’ files, colposcopy recordings, and pathological reports.

Results: In our tumor registry 248 patients were diagnosed to have smear abnormalities. Of these patients, 93 (37.5%) had ASC-US, 13 (5.2%) had ASC-H, 72 (29%) had LSIL, 33 (13.3%) had HSIL, and 37 (14.9%) had AGC. One hundred and fifty-six patients were diagnosed to have cervical preinvasive disease or invasive cancer after histologic examination. Of these patients 90 (63.8%) had CIN 1, 22 (15.6%) had CIN 2, 17 (12.1%) had CIN 3, 7 (5%) had LGSL, 3 (2.1%) had HGSIL, and 2 (1.4%) had invasive cervical cancer. The smear findings of two patients with invasive cervical cancer were HSIL.

Conclusion: The distribution of patients with respect to diagnoses defined by Bethesda III system was parallel to the literature. Only two patients had invasive cervical cancer which were diagnosed after HSIL cytology.
ADENOID BASAL CARCINOMA OF THE CERVIX
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Background and Aims: Adenoid basal carcinoma (ABC) is a rare neoplasm of the cervix and a slow-growing, locally invasive lesion that does not metastasize. Most patients are older (>50 years) and 50% are black. There are no distinctive clinical signs or symptoms to alert the clinician. A few patients can present with vaginal bleeding but the majority were identified after an abnormal papanicolaou smear.

Methods: We report two cases of ABC of the cervix. A 55-year-old, black woman, asymptomatic, whose papanicolaou smear showed severe atypia. The other a 74-year-old, black woman, with vaginal bleeding and a papanicolaou smear positive to squamous carcinoma. Both were submitted to a cone biopsy as they haven’t a macroscopic lesion. The hystopathology revealed ABC. They underwent a total abdominal hysterectomy with salpingoörectomy. The first one had a pelvic lymphadenectomy.

Results: The final result was a residual ABC associated with squamous intraepithelial lesion (SIL) in both cases and negative lymph nodes in the first case. They are alive and without disease 6 and 9 months, respectively, after the diagnosis.

Conclusion: Although the number of reported cases are small, the literature suggests that treatment should be conservative and total abdominal hysterectomy is the procedure of choice. There is a frequent association of squamous intraepithelial lesion (SIL), so a simple biopsy cannot rule out more invasive disease and a cone biopsy is sometimes necessary. The indolent behavior of this disease usually results in its discovery at an early stage and the outcome is favorable.

CYTOLOGY QUALITY IN THE NATIONAL CERVICAL SCREENING PROGRAM IN SLOVENIA
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Background and Aims: In Slovenia the incidence of cervical carcinoma is as high as 17/100,000. Every effort is being made to decrease this incidence, thus the aim of this study was to assess cytology quality in the national cervical screening program.

Methods: In this retrospective study cytology and final biopsy were compared.

Results: In 2004, 393 women with ASC-US cytology were treated by biopsy or cone biopsy at the Colposcopy Center, Department of Obstetrics and Gynecology, UMC Ljubljana. The patients were divided into the low-grade squamous intraepithelial lesion (LSIL) group and the high-grade squamous intraepithelial lesion (HSIL) group. Of the 160 cases in the LSIL group CIN I was found in 43.1%, CIN II in 14.4% and CIN III in 12.5%. No invasive carcinoma was found. Metaplasia was found in 5.6% of cases. There were no pathological findings in 13.8%. Of the 233 cases in the HSIL group CIN I was found in 16.7%, CIN II in 25.3%, CIN III in 45.1% and invasive carcinoma in 3% (n=7) of cases. Metaplasia was found in 5.6% of cases. There were no pathological findings in 4.3%. Sensitivity of cytology was 65.4% and specificity 79.6%. Positive predictive value was 73.1% and negative predictive value 73.0%. Odds ratio with corresponding 95% CI was 7.4 (4.4-11.6).

Conclusions: Cytology quality in the national cervical screening program seems to be satisfactory, although sensitivity of cytology needs to be improved.

PRIMARY CLEAR CELL ADENOCARCINOMA OF BARTHOLIN’S GLAND
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Background and Aims: Primary carcinoma of Bartholin’s gland is rare. Primary adenocarcinoma of the Bartholin’s gland occurs in 1% of all genital malignancies and 2.7% of all vulvar carcinomas. Primary clear cell adenocarcinoma of Bartholin’s gland has been reported only once by KC-K Lim and cols from the Royal Gwent Hospital, Newport, UK. As there are clinical implications with this rare disease we are reporting this case.

Methods: A 41-year-old-white woman noted a painful lump in the right side of her vulva for one year. She was being treated for infection of the right Bartholin’s gland in another institution. She was admitted on January 2002 and on examination there was a large, indurated, solid enlarged right Bartholin’s gland, measuring 3 cm in diameter. The inguinal lymph nodes were not enlarged. The biopsy of the lesion was adenocarcinoma. She was submitted to a radical wide local excision of the vulvar lesion and a bilateral inguinal-femoral node dissection.

Results: The hystopathology was clear cell adenocarcinoma of Bartholin’s gland and the lymphnodes were negative. An ultrasound scan of abdomen and pelvis, chest X–Ray and serum Ca-125 were normal. She had no evidence of recurrence until april 2006.

Conclusion: As it is a rare neoplasm and probably the second case reported, the prognosis and treatment are uncertain. A wide local excision of the primary tumor and bilateral inguinal lymphadenectomy seems to be a logical treatment. It is necessary to exclude primary clear cell carcinoma elsewhere, especially in the ovary and kidney.

PRIMARY MALIGNANT LYMPHOMA OF THE UTERINE CERVIX: A CASE REPORT
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Primary malignant lymphoma of the uterine cervix is extremely rare. We report a 41-year-old woman presented to her primary care physician complaining of abnormal vaginal bleeding and abdominal discomfort. Pap smear was negative. The endocervical curettage (ECC) showed malignant lymphoma of the uterine cervix. The patient was referred to our hospital for the appropriate treatment. There was no clinical evidence of systemic disease and a complete staging work-up was undertaken. Staging work-up showed malignant tumor of the uterine cervix without any definite metastasis. Bone marrow biopsy and aspiration showed no evidence of lymphoma. She underwent laparoscopically assisted vaginal hysterectomy (LAVH) and bilateral salpingo-oophorectomy. Histological examination revealed malignant lymphoma, diffuse large B-cell type of the uterine cervix. Ann Arbor stage IE was diagnosed. After surgery, the patient received 4 courses of cyclophosphamide, doxorubicin, vincristine, and prednisone (CHOP) chemotherapy and she remains 1 year later without any evidence of recurrence or metastases.

CEVIRCIAL CANCER SCREENING PRACTICES AMONG GENERAL PRACTITIONERS IN LAGOS- NIGERIA
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Background: Cervical cancer is the commonest genital cancer in women in Nigeria. Extensive cervical cancer screening by general practitioners is a widely reported strategy for cervical screening and can be effective in reducing mortality from cervical cancer.

Cytology quality in the national cervical screening program seems to be satisfactory, although sensitivity of cytology needs to be improved.
ALTERED EXPRESSION OF MICRORNAS (MIRNAS) IN CERVICAL CANCER

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Background and Aims: Although infection of high-risk human papillomaviruses (HPV) was considered to be the main step in cervical cancer development, other host genetic variations should be also involved in its malignant changes. Since the accumulating evidence suggested that microRNA(miRNA) misexpression contributed to the tumorigenesis, we examined the expression features of miRNAs in cervical cancer.

Methods: A total of 358 human miRNAs were tested by miRNAs' array in four cervical cancer tissues and 10 normal cervical tissues divided into 2 normal pools. The differential expressed miRNAs were further determined by real-time RT-PCR method.

Results: Two cancer tissues were infected with HPV 16, one with HPV 18, and one with HPV 33 respectively. All the ten normal cervical tissues showed HPV-negative. Microarray analysis demonstrated that miR-155, miR-142-3p, and miR-363 were up-regulated in cervical cancer tissues. On the other hand, expression levels of miR-1, miR-127, and miR-193b were significantly lower in cervical cancer tissues than in normal cervical tissues. The results of real time RT-PCR were in accordance with the microarray findings. Interestingly, most of the altered miRNAs located in proximity to fragile chromosomal sites associated with cancers.

Conclusions: Our study indicates that miRNAs might play important roles in neoplastic progression of cervical cancer by acting in coordination with HPV or independently.

INAPPROPRIATE Hysterectomy IN THE PRESENCE OF INVASIVE CERVICAL CARCINOMA

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Background and Aims: Invasive cervical carcinoma found incidentally after hysterectomy still presents difficulties in management. This audit aims to identify the reasons for inappropriate surgery and whether these vary between rural and urban practice.

Methods: The records of 94 patients referred to Tygerberg Hospital between 1976 and 2006 after inappropriate surgery in the presence of invasive cervical carcinoma, were identified. The indications for surgery, level of hospital, pre-operative investigations and extent of disease were noted. Statistical analyses were done by ANOVA.
Results: Abnormal uterine bleeding (33 cases), HSIL (22 cases) and cervical carcinoma (8 cases) were the most common indications for surgery. In 30 cases a diagnosis of carcinoma was made on either cytology or histology before surgery. 54 patients were referred from secondary level hospitals, 8 from private practitioners and 27 were operated at Tygerberg Hospital. Of the patients operated in the periphery, 25 had no cervical cytology pre-operatively. In 18 patients that had HSIL or carcinoma on cytology, only ten had cervical biopsies taken. In contrast, only five patients at tertiary level had no cytology pre-operatively and in four of those a diagnosis of either ovarian or endometrial carcinoma was erroneously made.

Conclusions: Insufficient pre-operative investigation is the single most important reason for inappropriate surgery in especially the peripheral hospitals. Of concern is that much of this surgery was done by consultant gynaecologists. The importance of cervical screening and the appropriate management of abnormal results need to be emphasized.

0530
TRENDS IN PATHOLOGY, MANAGEMENT AND OUTCOMES OF WOMEN WITH VULVAL CANCER
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Background and Aims: To assess trends in pathology, management and outcomes of women diagnosed with vulval squamous cell cancer (VSCC).

Methods: Patients were identified from the pathology database of The Royal Marsden Hospital, London. Case notes from 1976-2001 were retrieved, and information was retrospectively processed onto a proforma. Data analysis was performed using the SPSS package.

Results: 180 women were identified.

Conclusions: We have observed a trend towards less radical surgery, and an increasing use of radiotherapy as a primary and adjuvant therapy in the management of women with VSCC. This has not affected the survival rates of patients. Long-term vigilance is required in these patients, as recurrence can occur even after many years.

0531
THE PSYCHOSOCIAL IMPACT OF ADJUVANT CHEMORADIATION FOLLOWING MAJOR PELVIC SURGERY FOR CERVICAL CANCER
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Women with node positive disease following radical pelvic surgery for cervical cancer have historically undergone pelvic radiotherapy. Practice development now includes cisplatin chemotherapy, as this has been shown to improve overall and progression-free survival. Very little work has been carried out, however, on this small group of women with cervical cancer to determine the longer term side-effects and social burden of extensive treatment.

This exploratory project used a grounded theory approach to understand any longer term psychosocial problems as a consequence of cervical cancer treatment. Ten women who had major pelvic surgery followed by adjuvant chemoradiation were interviewed when they were at least six months following completion of cervical cancer treatment. The qualitative interviews were open in format and transcribed verbatim. Fieldnotes gave contextual information during qualitative data analysis, and systematic content analysis allowed themes to be developed. Constant comparative analysis formed part of the approach, which supported or disproved developing themes and theories. This approach links into the theoretical sampling procedure described in the literature pertaining to grounded theory.

The results of this project developed a further understanding of survivorship issues facing women with cervical cancer, in particular a theory of future disorientation. The fear of cancer recurrence, and the shadow of ‘risk’ lived with women and affected decision making on many levels. Women reported having a heightened body awareness, and worried about their health much more than before having cancer. This was in contrast with reports of an increase in risk taking behaviour.

0532
EXTREME DRUG RESISTANCE ASSAY IN PATIENTS AFFECTED BY CERVICAL CANCER: FEASIBILITY RESULTS AND PRELIMINARY CHEMOTHERAPY PROFILE
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Introduction: Cervical cancer remains the second most common malignancy worldwide in women worldwide. In this tumor, chemotherapy plays a role as neoadjuvant, concurrent or palliative treatment. In vitro chemoresistance assays have been developed for several types of tumors. The objective of this study was to evaluate the feasibility of performing EDR-Assay in patients affected by cervical cancer.

Material and Methods: Biopsies were obtained from patients affected by cervical cancer. Extreme Drug Resistance (EDR) to cisplatin, paclitaxel, doxorubicin, bleomycin and irinotecan was determined for an unselected population of primary and recurrent malignant cervical tissues.

Results: Seventy-two fresh tumor biopsies from fifty-nine patients were obtained. Sixteen, twenty-six, sixteen and fourteen patients were affected by FIGO I, II, III and recurrent disease, respectively. Fifty-six patients were affected by squamous cell carcinoma. In twenty-one cases the EDR-Assay was able to give a chemoresistance profile. Feasibility was related to tumor biopsy weight.

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Conclusions: Feasibility in cervical cancer patients is limited by available tumor weight and tissue viability. When approaching this assay physicians should concentrate efforts to obtain large biopsies. Larger series will be necessary in order to evaluate the clinical impact that this assay will have in these patients.

FACTORS AFFECTING OUTCOME AFTER INCOMPLETE EXCISION OF CERVICAL INTRAEPITHELIAL NEOPLASIA

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Background and Aim: Conservative treatment for cervical intraepithelial neoplasia (CIN) by ablative or excisional techniques is widely used. However, women with incomplete excision have a variable risk of CIN recurrence. The aim of this study was to identify possible risk factors for recurrence of CIN after large loop excision of the transformation zone (LLETZ) with involved margins of excision.

Methods: 306 cases of women treated with LLETZ for CIN in 2005, in whom histological evaluation of the excised specimens revealed extension of CIN to the excision margins, were retrospectively studied. A woman was considered to have recurrence when she had citologically confirmed CIN during the follow-up period. The characteristics that were examined as possible risk factors were age, grade of initial lesion and involvement of endo- or ectocervical margin. The Fisher test was used in statistical processing of the data.

Results: Treatment failure was diagnosed in 47 (18.8%) women with involved margins. The age and involvement to the endocervical gland were characteristics that reached statistical significance. The mean age of women with recurrence was 36 years, whereas the mean age of women without recurrence was 32 years (p = 0.0000). Also, a trend was evident in women with high-grade initial lesions (CIN II-III) (p = 0.061).

Conclusions: Increased age and involvement of the endocervical margins are risk factors for recurrence in women with incomplete excision of CIN after LLETZ. Larger studies are required for definite conclusions.

TRENDS IN REFERRAL PATTERNS, DEMOGRAPHICS AND SYMPTOMATOLOGY OF WOMEN WITH VULVAL CANCER

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Background and Aims: To assess trends in referral patterns, demographics and symptomatology of women diagnosed with vulval squamous cell cancer (VSCC) over 2 time periods; pre and post 1996.

Methods: Patients were identified from the pathology database of The Royal Marsden Hospital, London. Case notes from 1976-2001 were retrieved, and information was retrospectively processed on a proforma. Data analysis was performed using the SPSS package.

Results: 180 women were identified; 84 pre 1996 and 96 post 1996. Mean age at diagnosis was 68.5 years in the post 1996 group and 73.9 years in the pre 1996 group. After 1996, general practitioners accounted for 50% of referrals, gynaecologists 36%, dermatologists 8%, genito-urinary physicians 6%. Before 1996, gynaecologists accounted for 67% of referrals, general practitioners 33%.

Conclusions: There has been little change in the presenting symptoms and demographics of women with VSCC. We have seen increasing referrals from non-gynaecologists in the last ten years.

MANAGEMENT OF CERVICAL MALIGNANT LESIONS AFTER LOOP ELECTROSURGICAL EXCISIONAL PROCEDURE (LEEP)

Department of Gynecology Oncology, Mario Kröeff Hospital, Rio de Janeiro, Brazil

Background and Aim: Management of cervical preneoplasia starts with an abnormal smear result. Early detection and removal may stop the developing process that leads to invasive carcinoma. The purpose of the current study was to evaluate women with diagnosis of microinvasion or invasion lesions after LEEP for treatment of high-grade squamous intra-epithelial lesions (HSIL).

Methods: 261 cases of women treated LEEP for HSIL in 2005 were retrospectively studied. Histological evaluation of the excised specimens and the conducting were evaluated.

Results: 15 (5.7%) cases of microinvasion or invasion lesions were found in the histological specimen all without involved margins. Four patients with invasive cervical cancer were treated with radical hysterectomy. Three patients with adenocarcinoma in situ were treated with vaginal total hysterectomy. Ten patients with micro-invasive squamous carcinoma were treated with: abdominal total hysterectomy (4); vaginal total hysterectomy (4) and conservative excisional management (2) to protect the fertility. There is not evidence of recurrent disease at follow-up.

Conclusions: LEEP has a good diagnostic accuracy with minimal morbidity. This method has the possibility to detect early invasion lesions of cervix uterine. Our findings revealed that surgical intervention with LEEP on women with the diagnosis of HSIL in the PAP smear have benefits for the early and correctly treatment of cervical malignant lesions.

DIRECT VISUAL INSPECTION AFTER PAINTING WITH LUGOL’S IODINE (DVI-LI) FOR THE DETECTION OF PREMALIGNANT LESIONS OF THE CERVIX

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Objective: Cervical cancer is a leading cause of cancer related deaths in developing countries. Cytological screening could be inefficient in decreasing cervical cancer mortality in such low resource settings as in the western world. Therefore, this study evaluates the feasibility and efficiency of direct visual inspection after Lugol’s iodine painting (DVI-LI) in detecting cervical premalignant and malignant lesions.

Methods: This study included 1012 women screened for pre-malignant or malignant lesions of the cervix. All women underwent cervical smear taking, direct visual inspection of the cervix after painting with acetic acid (DVI-A) and after painting with Lugol’s iodine (DVI-LI). Abnormal test results were referred for colposcopy and biopsy.

Results: Cervical smears were abnormal in 24 women (2.4%). DVI-A test was abnormal in 92 women (9.1%). DVI-LI test was abnormal in 93 women (9.2%). There were 106 women (10.5%) referred for colposcopy with 88 women (8.8%) having biopsies taken. Biopsies showed premalignant and malignant lesions in 44 cases only. There were 35 L-SIL, 5 H-SIL and 4 cervical cancers. Test efficiency parameters (sensitivity, specificity, PPV, NPV) of DVI-LI (97.7%, 94.8%, 46.2%, 99.9%) were superior to those of cytology (22.7%, 97.6%, 41.7%, 96.6%) and DVI-A (90.9%, 94.6%, 43.5%, 99.6%).
Conclusion: DVI-LI is feasible and easy to perform with superior sensitivity to cervical cytology and DVI-A in detecting cervical pre-malignant and malignant lesions. DVI-LI can be used as an efficient primary screening tool with a satisfactory low biopsy rate in low resources settings.

A PILOT PSYCHOEDUCATIONAL SUPPORT PROGRAMME FOR WOMEN WITH EARLY CERVICAL AND ENDOMETRIAL CANCER

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Providing support services to survivors of cancer in the UK is emphasised in current government policy. Women attending gynaecological oncology follow up report feeling a sense of isolation and struggle to ‘move on’ following diagnosis and treatment for cancer despite evidence that the cancer is cured. A pilot psycho-educational support programme was offered to a previously identified group of women with early stage cervical and endometrial cancer.

The aim of the programme was to provide an educational input in a supportive group setting to promote a greater understanding of the impact of cancer and to explore ways of coping.

The programme was facilitated by the gynaecological oncology nurse specialist at Oxford and the centre head of Maggie’s Oxford (a cancer caring UK based charity).

The programme included invited speakers on specialist issues such as:

- Gynaecology surgery
- The impact of Cancer
- Fertility and psychosexual issues
- Diet and lifestyle

Evaluation indicated overall satisfaction and in particular:

- The benefits of the shared experience of cancer outside the context of family and friends
- The recognition of emotional responses to cancer and the opportunity to discuss worrying pre-occupations
- Clear and sensitively delivered information which clarified the understanding of cancer, its treatments and side effects.

The positive responses from this programme highlight a relevant approach to support women as they learn to cope with life after cancer. As a result of this pilot the programme will continue to be offered to women with a gynaecological cancer.

BRACHYTHERAPY FOR STAGE IB1 IN ELDERLY CERVICAL CANCER PATIENTS: THE INSTITUT GUSTAVE ROUSSY EXPERIENCE

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Background and Aims: The purpose of the present study was to analyze the efficacy and complication rates of pre or post operative brachytherapy for stage IB1 in uterine cervix cancer patients.

Methods: From January 1997 to March 2006, 1073 patients diagnosed with uterine cervical cancer with stage IB1 to IVB (FIGO) completed brachytherapy at the IGR. Among them, 143 patients were over 70 with 25 patients presenting stage IB1 tumor. A preliminary retrospective analysis was carried out with 25 stage IB1 to evaluate the survival rates, pattern failure, local control rates, and complications.

Results: The median age of this part of the future and complete large study was 77. Twenty four patients presented a squamous cell carcinoma of the uterine cervix. 2/3 patients were treated by the sequence pre operative uterovaginal low dose rate brachytherapy with a total dose of 60 Gy followed by colpo hysterectomy. With a median follow-up of 60 months, the 5-year specific overall survival rate was 96%, and the corresponding disease-specific survival rate was 92%. No patients developed distant metastasis. Only 2 loco regional relapses were reported. Thirteen of the 25 patients developed RTOG grade 1-2 rectal or small bowel complications. One patient had to be hospitalized for a grade 3-4 diarrhoea.

Conclusions: Elderly women with cervical cancer stage IB1 well tolerate brachytherapy and have excellent rates of locoregional control and survival. Age did not influence the effectiveness of brachytherapy in this set of elderly patients.

CARCINOMA OF THE CERVIX IN LAGOS, NIGERIA. A CLINICOPATHOLOGICAL REVIEW OF CASES SEEN FROM JANUARY 2000-DECEMBER 2004

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Background: Cervical carcinoma, a potentially curable malignancy still remains the commonest gynaecological malignancy in females in Nigeria, despite the decline in its most industrialised nations as a result of the introduction of organised routine cervical cytology screening services. This study was carried out to determine the clinico-pathological features of patients with carcinoma of the cervix seen at the Lagos University Teaching Hospital.

Materials and Methods: All histological diagnosed cases of carcinoma of the cervix seen at the Lagos university teaching hospital between January 2003 to December 2004 were reviewed and classified using the WHO histological classification of tumours. The biodata as well as information on clinical presentation, and stage at presentation were analysed.

Results: Two hundred and thirty eight cases where seen during the period under review. Their ages ranged 22 to 81 years with peak incidence in the 6th decade. Most of the women were multiparous, presented late and majority had never been screened. The commonest histological type was squamous cell carcinomas with large non-keratinizing cell type predominating.

Conclusion: Cervical carcinoma still remains the commonest gynaecological malignancies in females in Nigeria. Majority of the patients present late and have never been screened. There is an urgent need to establish a national community - based cervical cancer screening service to reduce the incidence of cervical cancer and its attendant morbidity and mortality.

BRACHYTHERAPY FOR STAGE IB1 IN ELDERLY CERVICAL CANCER PATIENTS: THE INSTITUT GUSTAVE ROUSSY EXPERIENCE

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Results: The median age of this part of the future and complete large study was 77. Twenty four patients presented a squamous cell carcinoma of the uterine cervix. 2/3 patients were treated by the sequence pre operative uterovaginal low dose rate brachytherapy with a total dose of 60 Gy followed by colpo hysterectomy. With a median follow-up of 60 months, the 5-year specific overall survival rate was 96%, and the corresponding disease-specific survival rate was 92%. No patients developed distant metastasis. Only 2 loco regional relapses were reported. Thirteen of the 25 patients developed RTOG grade 1-2 rectal or small bowel complications. One patient had to be hospitalized for a grade 3-4 diarrhoea.

Conclusions: Elderly women with cervical cancer stage IB1 well tolerate brachytherapy and have excellent rates of locoregional control and survival. Age did not influence the effectiveness of brachytherapy in this set of elderly patients.

CLINICAL AUDIT OF PATIENTS WITH CERVICAL CANCER IN SLOVENIA – DATA ANALYSIS FOR THE YEAR 2003 AND 2004

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Background and Aims: An audit should be an educational experience that provides complete assessment of the cervical cancer (CC) patient’s management within the cervical screening programme. Common risk and behavioural patterns, relating both to patients and healthcare professionals, may demonstrate the future approach to preventing CC.


Methods: The data on newly detected patients with invasive CC in 2003, 2004 who regularly attended their gynecologist were gathered simultaneously at three Advisory Boards for Gynecology in Slovenia. Additional details were obtained from their medical records, by the consent of each patient involved.

Results: In 2003 61% patients were examined by a gynecologist in the last five years, in 2004 48%. In the majority of these patients, CC was diagnosed in early, localized disease stage. In the periods of 6-24 months before the diagnosis of CC, almost half of the patients had PAP II (atyypical squamous or glandular cells or mildly dyskaryotic cells). In the last five years before diagnosis (till 6 months before diagnosis) 2 or more negative PAP results PAP I) had 18% of patients (2003) and 22% of patients (2004). On average 10% of the patients underwent conization few years before the diagnosis of CC. The percentage of biopsies was not rising in proportion to the number of performed colposcopies.

Conclusions: These results encourage us to proceed with clinical audit, to analyze individual CC cases, including another independent re-evaluation of cervical smear and biopsy. Refreshment training courses on colposcopy should be obligatory for all performing this examination method.

0541 THE ROLE OF RADICAL HYSTEROCTOMY IN THE TREATMENT OF STAGE IB2 CERVICAL CANCER: A COMPARISON OF STAGES IB1 AND IB2
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Background and Aims: To evaluate clinico-pathological characteristics of surgically treated stage Ib2 cervical cancer and to define the role of surgery in the treatment of bulky cervical cancer.

Methods: Surgically treated stage Ib cervical cancer were evaluated. Charts were retrospectively reviewed and clinico-pathological variables were abstracted. The patients were studied in two groups according to pathological tumor size. There are 109 patients in stage Ib1 (tumor size <4 cm) and 40 patients in stage Ib2 (tumor size >4 cm).

Results: Mean age of the patients with 109 Ib1 and 40 Ib2 tumors was 44.6 years (range 17-63) and 48.1 years (range 26-70), respectively. The frequency of adenocarcinoma is much higher in Ib2 patients (13% vs 25%) (p:0.001). Surgical margin and parametrial tissue were involved with tumor in 20% and 35% of patients with bulky cervical cancer, respectively. Also, there was deep cervical invasion (>2/3) in more then 60% of Ib2 tumors. High frequency of nodal metastasis and lympho-vascular space invasion were seen in stage Ib2 compared with Ib1 tumors (p < 0.05). On multivariable analysis, tumor size was not an independent prognostic factor for stage Ib cervical cancer. Patients with Ib2 disease received adjuvant radiation more frequently than Ib1 patients (67% vs. 27%, P = 0.001). Five-year DFS and OS for patients with stage Ib2 were 58% and 74%, respectively.

Conclusion: Tumor size was not an independent prognostic factor in stage Ib cancer. Radical hysterectomy and tailored adjuvant radiation therapy is an acceptable alternative therapy to chemo-radiation for patients with stage Ib2 tumors.

0542 MALIGNANT VAGINAL MELANOMA: A CASE REPORT
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Malignant vaginal melanoma is a rare and extremely lethal disease. We present a case of 60-years old patient admitted to our Institute suffering of postmenopausal vaginal bleeding. Changes in the proximal part and in the posterior fornix of the vagina were biopsied. Pathohistological examination showed very poor differentiated malignant tumor with focal necrosis probably originating from mesenchyme – sarcoma. TAH/BSO and extirpation of the upper third part of the vagina was performed. Histopathological evaluation showed malignant melanoma of the vagina, which was confirmed by immunohistochemical analyses (LCA, Vimentin, S-100, Melanosome HMB-45). Two months after the procedure the patient presented with vaginal bleeding. Vaginal examination confirmed local polyoid recidive of moderate size of 4 x 3 cm with yellow-brownish appearance. Local extirpation of this recidive resulted in patient’s well being. Six months after the extirpation of this local recidive on routine control the existence of pelvic mass was confirmed, mostly to the right side, toward to iliac fosse. Abdominal CT confirmed a very large pelvic recidive tightly to iliac blood vessels. This finding was inoperable. The patient was treated according to the protocol for malignant melanoma. One year after the operation tumor masses were in whole abdominal cavity. Vaginal recidive was also present. Lethal outcome was 15 months after the initial operative procedure.

Conclusion: Radical excision has been the mainstay of treatment of avoiding local vaginal recurrence. It is not necessary to dissect regional lymph nodes, because the disease is deeply invasive and haematogenous spread is the most common cause of lethal recurrence.

0543 PATHOLOGIC EVALUATION OF LYMPH NODE SPECIMENS IN GYNECOLOGIC ONCOLOGY
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Background: The purpose of this study was to determine if dividing lymph node specimens into smaller anatomic subgroups would lead to an increase in the number of overall lymph nodes reported.

Methods: Patients with a diagnosis of a gynecologic malignancy who underwent laparotomy with complete pelvic and para-aortic lymphadenectomy were identified. No patients were knowingly excluded. The two groups compared were lymph nodes sent in 13 separate specimens versus four. A comparison was made of the total number of lymph nodes evaluated, the total number of pelvic lymph nodes evaluated, and the total number of para-aortic lymph nodes evaluated.

Results: Sixty-four patients underwent the specified surgery and had lymph nodes sent to pathology in 13 subgroups. The control group consisted of 128 patients that underwent surgery but had their nodes sent in only four groups (right and left pelvic and para-aortic). There was no significant difference in BMI for the two groups (31.9 v. 31.8, p = 0.722). Between the control and the study group there was a just <50% increase in total nodes found (26 v. 38, p < 0.001). When comparing only pelvic lymph nodes, there was >50% increase in total lymph nodes reported (18 v. 28, p < 0.001). Finally, there was a 25% increase in the number of para-aortic lymph nodes reported (8 v. 10, p = 0.008).

Conclusion: Women undergoing pelvic and para-aortic lymph node dissection for a gynecologic malignancy should have lymph node specimens sent to pathology in smaller subgroups to increase the number of total lymph nodes reported and examined.

0544 PELVIC EXENTERATION – 10 YEARS EXPERIENCE AT MEDICAL UNIVERSITY OF GDANSK
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Background: The pelvic exenteration is usually performed as the salvage therapy in the cases of centrally localized pelvic malignancies.
Material and Methods: 29 pelvic exenterations in years 1996-2005 were performed. Indications included: vulvar cancer - 15 (51.7%) (12 – primary, 3 – recurrent); rectal cancer - 6 (20.6%) (3 – primary, 3 – recurrent); cervical cancer - 5 (17.3%) (1 – primary, 4 – recurrent), and one case of: primary vaginal cancer, recurrent uterine sarcoma and recurrent ovarian cancer. Posterior exenteration was performed in 23 cases (79.6%), total exenteration - 4 cases (13.6%), anterior exenteration in 2 cases (6.8%). Mean patient age was 54 years (34-82). Mean operating time was 6 hours 30 minutes (235-705 minutes). Mean hospitalization time after surgery was 27 days (8-66). Overall survival was calculated using Kaplan-Meier method and Cox test.

Results: 5 years survival rate for the entire group was 49%. At the end of the observation time (97 months) the survival rate diminished to 38%. There was no significant difference in overall survival rate between the group with primary and recurrent disease. There was statistical significance in overall survival rate between the group with negative and positive surgical margins. The overall complication rate was 51.7%. The mortality rate was 6.8.

Conclusions: With appropriate patient qualification pelvic exenteration can be the treatment of choice for the control of locally advanced pelvic malignancies with a reasonable long term survival.

0546 PRIMARY FEMALE URETHRAL CANCER ORIGINATING FROM THE PARAURETHRAL DUCTS

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Primary carcinoma of the female urethra is a rare neoplasm with a relatively poor prognosis. The incidence is less than 0.1% of all female genital malignancies. The majority of urethral lesions are squamous growths originating from the mucosa and, less commonly, adenocarcinomas originating from the paraurethral ducts. Skene’s (periurethral) gland carcinoma is a rare neoplasm accounting for less than 0.003% of all genital tract malignancies in females. We present a case of urethral/paraurethral adenocarcinoma of uncertain origin in a female patient, with an uneventful course of 5 years. A 64-year-old lady on admission had a 50x45x30 mm widely pedunculated tumor, arising close to the external urethral orifice. The tumor had a cauliflower and dilated appearance, and profoundly bled on touching. After removal, a complete histological workup of the biopsy samples was performed. The histopathological examination revealed small irregular glandular and elongated papillary formations lined by a single/two-layered columnar epithelium. The cells had moderately abundant, light basophil, PAS negative, AB sporadically positive cytoplasm, with alcianophil material in some of the lumina. The nuclei were large, irregularly oval, with small nucleoli and very rare mitoses. The loose connective stroma contained a small number of mononuclear cells and granulocytes. No invasion of blood or lymph vessels was detected. The reaction to PSA was negative. The histopathological diagnosis was well-differentiated papillary adenocarcinoma, with mild/moderate nuclear atypia, without blood/lymph vessel invasion.
WHERE TO LOOK FOR THE SENTINEL LYMPH NODE IN CERVICAL CANCER?
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**Background and Aims:** The aim of this study was to assess different patterns of lymphatic spread to pelvic, parametrial, and paraaortal lymph nodes in cervical cancer, in order to locate possible sentinel lymph node metastases.

**Methods:** Between 1971 and 2005, 619 patients with invasive cervical cancer were treated by radical abdominal hysterectomy and systematic pelvic or systematic pelvic and paraaortal lymphadenectomy at our institution. The present study includes 61 (10%) patients with one positive lymph node and 59 (10%) patients with two positive lymph nodes at any location.

**Results:** The external iliac (43%) and obturator (26%) were the most commonly involved pelvic lymph node sites with isolated metastases. Solitary paraaortal lymph node metastases were found in 21% of patients. Isolated metastases to common iliac, presacral, and paraaortal nodes were observed in 7%, 1%, and 1% of patients, respectively. Patients with two positive nodes most commonly had combined paraaortal and pelvic lymph nodes involved (32%). Two lymph node metastases were found at the same pelvic side or within the parametrium in 31% and 10% of patients, respectively. One positive lymph node to each pelvic side was observed in 27% of patients.

**Conclusion:** External iliac, obturator, and paraaortal lymph nodes are the most common sites to locate a singular positive lymph node. Sentinel node identification should primarily include these lymph node sites. If one positive lymph node is found, further metastases are unpredictable within pelvic and paraaortal lymph node sites. Paraaortal spread without pelvic node involvement is extremely rare.

THE EFFICIENCY OF P16INK4A IMMUNOSTAINING IN SHOWING HIGH RISK HUMAN PAPILLOMA VIRUS INFECTION
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**Objectives:** Our aim was to determine the efficiency of p16INK4a immunostaining as a potential diagnostic and prognostic biomarker for cervical neoplasia using paraffin-embedded tissue blocks by showing the relationship between its overexpression and high risk human papilloma virus (HR-HPV) infection.

**Methods:** Twenty-two CIN I, 7 CIN II, 16 CIN III, 23 cervical cancer and 15 histologically normal tissue samples were selected to be included in the study. These slides were reviewed according to the Bejesta system and all were immunostained for p16INK4a. HPV positivity and typing was determined by real time polymerase chain reaction.

**Results:** According to this study, p16 marks cervical tissue infected with HR-HPV with a sensitivity of 97.4% and a specificity of 63.6%. The positive predictive value (ppv) of p16 in showing lesions with HR-HPV is 70.4% and negative predictive value (npv) of p16 is 96.6%. The sensitivity, specificity, ppv and npv of p16 for LSIL with HR-HPV are 75%, 88.2%, 60% and 93.2%, respectively.

**Conclusions:** P16 is a sensitive marker for HSIL and cervical cancer that is associated with HR-HPV infection. Although the number of LSIL lesions in this study is very small to make a conclusion for low grade cervical lesions the sensitivity of this marker in marking lesions with HR-HPV is high enough to encourage us for future studies that will determine the value of this marker in showing low grade lesions with a potential to progress into high grade lesions.

EARLY STAGE CERVICAL CANCER WITH ADVERSE PATHOLOGICAL FACTORS TREATED WITH PRIMARY RADICAL HYSTERECTOMY AND ADJUVANT THERAPIES
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**Objective:** Adjuvant treatments of early stage cervical cancer patients with adverse prognostic factors following radical hysterectomy and lymphadenectomy were evaluated. The effects of radiotherapy (RT) versus combination radiotherapy and chemotherapy (RCT) were compared.

**Methods:** Fifty-six patients were reviewed. Adverse prognostic factors were identified: invasion greater than half the cervical length, involvement of lymphovascular space, lower uterine segment involvement, and close margins. Tumor diameter 2 to 4 cm, and positive lymph nodes.

**Results:** Thirty patients were treated with RT and 26 patients were treated with RCT. The median PFI was 71 months in the RT group compared to 18 months in the RCT group. The 2-Y5 in the RT group was 93.3% versus 80.7% in the RCT group. Median OS was 72 months (mean 76) in the adjuvant RT group versus 27 months (mean 35) in the RCT group. Six (20%) bowel obstructions occurred in the RT group and 3 (11.5%) in the RCT group. Clinical lesion size was smaller in the RT group than the RCT group (3.2 vs. 4.5 cm). Pelvic lymph node were positive in 20% of the RT group compared to 61.5% in the RCT group. Grade 3 disease was a significant prognostic factor for recurrence and survival using the log rank test (p = 0.0004 and p = 0.0004) and close margins was predictive of recurrence (p = 0.0087), regardless of treatment arm.

**Conclusions:** Although the study design assumed uniform patient selection criteria, the RCT group had greater positive lymph nodes and adverse outcomes. Possible causes for this difference are discussed.

FULL RECOVERY OF RECURRENT EXTRAMAMMARY PAGET’S DISEASE OF THE VULVA (R-EMP-V) AFTER IMIQIMOD TREATMENT
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The EMPD-V recurrence rates are high despite aggressive surgical intervention. Identification of new therapeutic strategies less mutiating/aggressive than recurrence, x-ray therapy, or chemotherapy are warranted. Here we present a case one patient with R-EMP-V, who responded to topical imiquimod therapy. A 61 year old female with a history of hypertension and diabetes underwent margins free vulvectomy due to EMPD-V (1995). She abandoned follow-up and returned 8 years later with a benign erythematous papule lesion near to the surgical scar. Upon reliving of symptoms with topic corticoid the patient did not show up for a programmed vulvoscopy. She reaparred two years later with a greater lesion. On examination, bilateral well-defined hypo-pigmented leuokplakia-like lesion was...
observed on the gluteus area. The biopsy specimen was positive for rEMPD-V and the differential diagnosis was confirmed by histopathology (HE) and immunohistochemistry (CK7, EMA, CEA, GCDFP-15, S100, Melan A, c-erbB-2 and p53). Due to chronic underlines a surgery was not advised to the 72 years old patient. Therapeutic options were discussed with the patient and she agreed to undergo treatment with imiquimod 5% cream for 6 weeks. Follow-up evaluations and biopsy specimens at 0, 3 and 6 months were negative. This report suggests that Imiquimod may be considered as an alternative treatment for patients with rEMPD-V avoiding suffering, permanent disfiguration and functional deficits.

0552
THE USEFULNESS OF ‘IN VIVO’ PROTON H1 SPECTROSCOPY MRS IN PRETREATMENT EVALUATION OF PATIENTS WITH CARCINOMA OF THE CERVIX
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Purpose: to determine the usefulness of “in vivo” Proton H1 MRS in the pretreatment evaluation of patients with cervical cancer.

Material: MRS was performed in 122 pts. with stage IA-IIB cervical cancer. 102 pts. had Wertheim’s hysterectomy, 16 pts. were irradiated due to advanced stage, 4 had surgery in other institutions. The MRS images were correlated with microscopic findings of surgical specimen. In 16 irradiated pts. MRS was performed before and immediately after and 3 months after radiotherapy.

Results: The spectra from 102 pts treated with surgery on average at 1.3 ppm and ppm 3.2 corresponding to triglycerides and choline. The presence of these peaks correlated with tumor volume and stage. Peaks at ppm > 1.3 (triglyceride) were detected in 25% of stage IA pts. and in 78.89% of stage IB-IIA. The choline peaks at ppm > 3.2 were detected in 63% of stage IBI pts. 76% - IIB and 55% with stage IIA.

The spectra in 16 irradiated pts. have shown a changing pattern in the course of RTH. Choline peak (ppm > 3.2) was detected in 68% of pts before RTH, 44% at the end and 31% 3 months after RTH. Triglyceride peak (ppm > 1.3) was detected in 93.7% before and in 18.7% after RTH.

Conclusion: The results of this analysis have shown that choline and triglyceride peaks detected by “in vivo” MRS are reliable markers for invasive cervical cancer. Their presence correlates well with tumor volume and clinical stage. The analysis of the spectra of irradiated pts. has shown a decrease in the fraction of tumors positive for the choline and triglyceride peaks.

0553
NEOADJUVANT CHEMOTHERAPY WITH CISPLATIN AND VINCRISTINE FOLLOWED BY RADICAL Hysterectomy MAY BE BENEFICIAL COMPARED TO CONCOMITANT RADIOCHEMOTHERAPY IN BULKY IB2-IIA CERVICAL CARCINOMA
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Background and Aims: Neoadjuvant chemotherapy (NAC) followed by radical hysterectomy and lymphadenectomy (RHLA) is an alternative treatment for bulky cervical cancer patients, without extra-cervical spread on pretreatment CT/PET-CT scan, treated at our department during 1994-2005. Treatment modalities changed over the study period: while in 1994-2003 patients received either RCT or radical hysterectomy, during 1998-2005 25 patients received NAC, including CDDP 50 mg/m2 and vincristine 1mg/m2 every 10 days for 3 cycles, and underwent RHLA 4 weeks post NAC. Radiotherapy was added whenever positive lymph nodes, close margins (<1cm) or deep invasion were found. Overall survival (OS) and disease free survival (DFS) were compared for the RCT (n=12) and NAC groups using the Kaplan-Meier method.

Results: Mean age at diagnosis was 43.1 ± 7.7 and 48.6 ± 13.1 for the NAC and RCT groups respectively (p = 0.12). Tumor size was 5.27 ± 0.8 and 5.9 ± 1.4 respectively (p = 0.09). No major toxicity and no surgery delay were shown for the NAC group. During a follow-up of 30 months the OS was 100% and 84% (P = 0.07) and DFS was 79%, and 75% (P = 0.59) for the NAC and RCT groups, respectively.

Conclusions: NAC followed by RHLA seems to be safe and effective and may improve prognosis.

0554
MALIGNANT MELANOMA OF THE Vagina – ANALYSIS OF PROGNOSTIC FACTORS
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Background and Aims: To evaluate the role of radical surgical procedures, radiotherapy, and other prognostic factors associated with survival in patients with vaginal melanoma.

Methods: From 1972-2002, patients with primary vaginal melanoma were identified from tumor registry databases at four California academic medical centers. Data collected from hospital charts, office records, and tumor registry files were analyzed using Kaplan-Meier survival analysis, and Cox proportional hazards regression. All slides were rereviewed by two gynecologic pathologists.

Results: Of the 20 patients diagnosed with vaginal melanoma, the median age of diagnosis was 68.5 (range: 40-81). Six had FIGO stage I, seven stage II, four stage III, and three had stage IV disease. Eleven patients had conservative surgery (simple excisional vulvectomy, excisional vaginectomy, or simple vaginectomy) followed by radiotherapy, chemotherapy or a combination of these procedures; nine patients underwent a radical surgical procedure (radical vaginectomy or an anterior, posterior, or total pelvic exenteration). Patients who underwent a radical procedure had a significantly improved two-year survival of 88.9% versus 36.6% in those who received conservative management (p = 0.045). However, there was no difference between these two treatments in patients with tumors <3 cm2 (p = 0.34) and ≥3 cm2 (p = 0.54). Nine patients who received conservative management and seven patients who underwent a radical procedure had a recurrence, but this difference was not statistically significant (p = 0.88).

Conclusion: In this small series, our data suggest that radical surgery may have an important role in the treatment of vaginal melanoma in younger patients with tumors amenable to radical surgery.
0555

POPULATION-BASED ANALYSIS OF PROGNOSTIC FACTORS IN VULVAR CANCER

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Background and Aims: To evaluate the clinical and pathologic factors associated with survival in patients with vulvar cancer in a large population-based study.

Methods: Demographic, pathologic, and treatment information were obtained on patients with vulvar cancers from the Surveillance, Epidemiology and End Results database between 1988 and 2001. Kaplan-Meier estimates and Cox proportional hazards model were used for analyses.

Results: 4,298 women (mean age: 67 years) with vulvar cancer were included. In this population-based study of vulvar cancer patients, factors associated with survival in patients with vulvar cancer in a large population-based study were identified including 2,201 (51%) stage I, 818 (19%) stage II, 1,048 (23%) stage III and 231 (5%) stage IV disease. The majority of the tumors were squamous (90%) cell type with the remaining adenocarcinoma (8.5%) and sarcoma (1.5%). Women with stage I, II, III and IV disease had a 5-year survival of 95%, 87.7%, 64%, and 42%, respectively (p<0.0001). Patients <40 years had a better 5 years disease-specific survival rate compared to those >40 years (95% vs. 83.3%, p<0.0001). Women with adenocarcinoma had a 5-year survival of 93.4% compared to 83.2% of those with squamous cell cancers (p<0.0001). Women with advanced stage disease who underwent radical surgery had a significant improved survival rate compared to those who did not receive surgery (67% vs. 60%; p=0.009). Patients with stage III disease with negative lymph nodes had significantly better survival than ones with positive lymph nodes (80% vs. 54%; p<0.0001).

Conclusions: In this population-based study of vulvar cancer patients, younger age, race, early stage, grade 1 disease, adenocarcinoma histology, negative lymph nodes status and surgical treatment were important predictors for improved survival.

0556

SURVIVAL OF PATIENTS WITH SQUAMOUS CELL CARCINOMA VULVA FOLLOWING SURGICAL EXCISION

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Background: Carcinoma of the vulva is the rarest form of gynecological malignancies. Approximately 800 new cases are registered in the UK per year. Prognosis depends on nodal status and adequate surgical treatment of inguino-femoral nodes. Local and nodal recurrences are associated with poor prognosis. A good lateral clearance margin of about 8 mm is associated with low regional recurrence. However achievement of clear margins is limited by the proximity of vital organs.

Method: In this retrospective study, 45 patients who underwent surgical treatment for squamous cell carcinoma of the vulva between 1997 and 2001 were identified. We were able to retrieve only 36 case notes. Clinico-pathological reports and surgical records were analysed. Survival analysis was done by Kaplan-Meier method. Survival was calculated in relation to the adequacy of clearance margins.

Results: 16 patients, who had good clearance margins, were alive 5 years after initial surgery. 6 patients, despite good clearance margins, were dead before 5 year follow up period. 5 patients were alive five years after initial treatment despite lack of good clearance margins. Nine patients without adequate clearance margins died during the five year follow up period.

Conclusion: Survival is clearly related to achieving good clearance margins. Some patients still develop recurrence despite good surgical clearance. Repeat excision is often difficult and has added morbidity. This was only a pilot study looking at the survival in relation to excursion margins. This paper may encourage other authors to report the experiences so that a consensus opinion can be reached in the management of these patients.

0557

IMPACT OF RADIOThERAPY OVERALL TREATMENT TIME ON CENTRAL RECURRENCE RATE IN CARCINOMA OF THE CERVIX

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Background and Aims: To investigate the impact of radiotherapy overall treatment time (OTT) on the central recurrence rate in patients with carcinoma of the cervix.

Methods: Patients who underwent external beam radiotherapy (EBRT) and low dose-rate brachytherapy (BT) +/- concomitant weekly cisplatin chemotherapy for cervical carcinoma between January 2000 and December 2004 were identified. Patient characteristics plus details of radiotherapy and chemotherapy were collected along with toxicity, recurrence and survival data. OTT was recorded from the start of EBRT to the completion of BT and was compared to the accepted gold standard of 56 days or less.

Results: Sixty-eight patients were identified, mean age 54 years, range 26-91 years. Median follow-up was 44 months, range 11-72 months. 84% of patients had squamous cell carcinoma and 7% had adenocarcinoma. The percentages of patients with stage I, II, III and IV disease were 27, 40, 24 and 9 respectively. There were 24 recurrences, of which 12 (18%) were central. The mean OTT was 49 days, range 28-86 days, for the group as a whole compared to 53 days, range 41-68 days, for the central recurrence group. The mean total point A dose was 72.2Gy for the central recurrence group and 69.6Gy for the group overall. The OTT exceeded 56 days in 21% of patients.

Conclusions: OTT was prolonged in patients with central recurrences compared to those who remained disease-free. The OTT needs to be less than 56 days in all patients in order to improve patient outcome.

0558

PHOTODYNAMIC THERAPY IN THE MANAGEMENT OF CERVICAL INTRAEPITHELIAL NEOPLASIA


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Background and Aims: PDT preserve normal tissue and have selectively cytotoxic damage to the target tissue. The objective of this study is to determine the effectiveness of PDT and to compare the effectiveness between PDT and LEEP in the management of CIN.

Methods: A comparative study of 52 young women with CIN at CGCC, Department of Obstetrics and Gynecology, Bundang CHA Hospital from May 2002 to August 2003, was followed up more
than 6 months. All of 52 cases had Pap smear, punch biopsy, cervicogram, HPV test before and after management. 26 cases were treated with PDT, 26 cases were treated with LEEP. All PDT-treated cases received Photogen® (2mg/kg) I.V. and a diode laser (Ceralas PDT, ceramoptec GmbH, Bonn Germany) providing light at 635 nm with total light dose of 150 J/cm² at 48 hours. Student t-tests were used to compare the effectiveness between PDT and LEEP.

Results: Cure rate of CIN was 92.3% in PDT group, and 96.0% in the LEEP group. Eradication of HPV infection was 83.3% in PDT group and 81% in the LEEP group. Compared with LEEP complication, PDT complications were relatively tolerable. However, it is necessary that the patients strictly avoid the sun for nearly 5 weeks in order to prevent sunburn (phototoxicity).

Conclusions: The PDT may be an alternative method for selective tissue destruction to preserve fertility in the management of CIN.

0559

PHASE I TRIAL OF WEEKLY DOCETAXEL AND CARBOPLATIN IN PATIENTS WITH RECURRENT SQUAMOUS CARCINOMA OF THE CERVIX

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Background: Treatment for recurrent cervical cancer is palliative; therefore a low side effect profile is important.

Methods: Patients with recurrent squamous carcinoma of the cervix and a performance status of 2 or better were enrolled in a phase I study evaluating carboplatin at an AUC of 2 and docetaxel at the following dose levels: L1, 25 mg/m²; L2, 30 mg/m²; L3, 35 mg/m²; and L4, 40 mg/m² i.v. for 3 consecutive weeks of a 4 week cycle.

Results: So far 10 patients have been completely evaluated. The median age is 55 years. The median time to recurrence is 13 months. Previous treatment included chemoradiation and in 2 patients additional platinum based chemotherapy. An average of 3.6 courses were administered per patient. One patient received 8 courses. Treatment was discontinued due to progressive disease in all but 2 patients: one with grade 3 onycholysis and another with a grade 3 allergic reaction to carboplatin. Up to L3 there were no treatment delays due to hematologic toxicity, but dose limiting hematologic toxicity was reached in L4. The mean hemoglobin level dropped from 12 g/dl prior to course 1 to 10.6 g/dl prior to course 3 and 10.2 g/dl prior to course 5. No grade 3 anemia was seen. The main non-hematologic side effects were fatigue, nausea and alopecia, none of which reached grade 3.

Conclusions: The combination of docetaxel and carboplatin given on a weekly schedule is well tolerated. Dose levels similar to those reported for initial treatment can be reached.

0560

HELIcobacter Pylori PREVALENCE IN FEMALE LOWER LElER TRACT

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Background and Aims: Helicobacter pylori is thought to play role in many gynecologic and obstetric pathologies since cervical mucosa resembles gastric environment by having columnar epithelium, similar pH and mucoid structure. This organism although not pointed in literature yet, is expected to infect upper genital tract via oral-genital and fecal-genital route.

Methods: This study includes 35 cases who admitted to Uludag University, Faculty of Medicine Department of Obstetrics Gynecology with benign, ASCUS, ASC-H, LSIL, HSIL pap smear results. H pylori in uterine cervix is investigated with H pylori stool antigen test which is standardized to find H pylori in brush sitology, histopathological specimens and cervicovaginal secretions. H pylori infection is investigated in serum with ELISA for H pylori IgG, H pylori IgA and active infection is demonstrated with H pylori antigen test in stool.

Results: The Pap smear results of cases in order of frequency are 16 (45.7%) ASCUS, 8 (22.9%) benign, 5 (14.3%) LSIL, 3 (8.6%) ASC-H, 3 (8.6%) HSIL respectively. According to ecotocervical biopsy results 23 patients (65.7%) have chronic cervicitis, 2 patients (5.7%) have CIN1, 2 patients (5.7%) have CIN2, 2 patients (5.7%) have CIN2-3, 1 patient (2.9%) has invasive Ca which correlates with Pap smear results. H pylori seroprevalence of patients is 65.7% and 17.1% of cases have active infection. We could not find H pylori in cervix and cervicovaginal secretions with our diagnostic tests.

Conclusion: Cervix is not a reservoir for H pylori and H pylori seems not to be transmitted through fecal-genital route.

0561

THE PERFORMANCE OF AN IMAGE DIRECTED CYTOLOGY SYSTEM FOR DETECTING CERVICAL CANCER PRECURSORS IN A SCREENING POPULATION IN CALIFORNIA

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Background: The ThinPrep Imaging System (TIS, Cytex, Boxborough, MA) is a FDA approved system designed to reduce vigilance-induced fatigue in cytotechnologists. We compare detection of cervical cancer precursors in screening populations throughout California before and after the introduction of TIS.

Methods: Results of 88,409 manually screened ThinPrep Pap tests were compared to a 73,074 TIS tests selected from clinic sites that were converted to TIS between January 2005 and April 2005. Available biopsy results from both groups were obtained and analyzed.

Results: The use of TIS increased the percentage of ASC-US (5.57% to 6.36%), ASC-H (0.07% to 0.32%), of LSIL (3.99% to 4.64%) and of HSIL (0.49% to 0.61%) when comparing manual to TIS screened slides respectively (p < 0.001). Percentage of ASC-US yielding a positive reflex high risk HPV test increased from 57% to 68% pre to post TIS (p < 0.01). The percentage of abnormal biopsies pre to post TIS from ASC-H Paps was (69.7% to 68.4%), LSIL Paps (49.9% to 61.1%), and HSIL Paps (82.4% to 83.5%). Cytotechnologist output pre to post TIS increased from and average of 73 slides to an average of 115 slides per day.

Conclusion: TIS increases the detection of SIL without an apparent decrease in specificity, while increasing cytotechnologist output.
Methods: We performed a prospective study of 62 patients between May 2005 and December 2005. Hybrid Capture II testing was used to identify patients with high-risk HPV DNA positive or negative. HPV DNA Chip test was performed for HPV genotyping in all cases with HPV DNA positive. Real-time PCR was used to quantify HPV-16 E6, E7, interleukin-6 (IL-6), interleukin-10 (IL-10), tumor necrosis factor α (TNF α), and interferon γ (IFN γ) transcripts.

Results: Among high-risk HPV-infected women, intraläsional TNF α, IL-6, IL-10, and IFN γ levels were not significant differences according to histologic grade. In multivariate logistic regression analysis, TNF α, IL-6, IL-10, and IFN γ were not associated with HPV 16. Increased IFN γ was significantly associated with HPV-16 E6 and E7-positive (OR 15.317, 95% CI: 1.462-160.429; OR 10.787, 95% CI: 1.217-95.608, respectively), whereas TNF α, IL-6, and IL-10 were not associated with HPV 16. In multiple regression analysis, elevated IFN γ was significantly associated with increased HPV viral load (P = 0.0399), whereas TNF α, IL-6, and IL-10 were not associated with HPV viral load.

Conclusions: Among HPV-infected women, IFN γ is significantly associated with HPV-16 E6, E7, and high-risk HPV viral load in the uterine cervix. Thus, increased intraläsional IFN γ may be considered to be a prognostic marker for oncogenic potential of high-risk HPV.

Methods: Patients with stage IA2 to IA cervical cancer who underwent a type II RH followed by adjuvant chemoradiation or radiation alone from 1994 to 2005 at two teaching institutions were included. Intermediate risk disease was defined as tumor size >4cm, lymph-vascular space invasion, or stromal invasion >50%. Patients with positive lymph nodes, parametrial involvement, or positive margins were considered high risk.

Results: 39 patients were identified, 30 patients had high risk and 29 had intermediate risk disease. The majority of patients who received chemoradiation had single agent platinum (83%). Grade 3 toxicity was seen in 10% of patients in the chemoradiation group compared to 8% in the radiation alone group. Treatment delays occurred in 12% of patients in the chemoradiation group and 14% of patients in the radiation alone group. Median follow-up for entire cohort was 60 months. Median survival has not been reached for patients treated with radiation alone compared to a median survival of 57 months among patients treated with chemoradiation (p = NS).

Conclusions: Adjuvant treatment of intermediate and high risk early stage cervical cancer with single agent platinum chemoradiation following type II RH does not significantly increase morbidity. Larger prospective trials are needed to determine a potential survival benefit for this contemporary treatment regimen.

0563
A CASE CONTROLLED STUDY OF TOTAL LAPAROSCOPIC RADICAL HYSTEROECTOMY WITH PELVIC LYMPHADENECTOMY (TLRH) VERSUS RADICAL ABDOMINAL HYSTERICOTOMY (RAH) IN A FELLOWSHIP TRAINING PROGRAM
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Background and Aims: To assess the feasibility and safety of TLRH in early cervical cancer in a fellowship program.

Methods: All patients with cervical cancer treated with TLRH were identified and matched with the patients treated with RAH based on stage, age and nodal status.

Results: There have been no recurrences observed in the laparoscopy group.

Conclusion: TLRH yields comparable safety profile to RAH with a reduction in blood loss and hospital stay, and an increase in operative time. It is feasible to incorporate TLRH training into the curriculum of gynecologic oncology fellows. Standardization of TLRH technique and consistent mentorship by an experienced faculty member is an imperative.

0564
MORBIDITY AND OUTCOMES IN PATIENTS WITH EARLY CERVICAL CANCER TREATED WITH CHEMORADIATION VERSUS RADIATION ALONE AFTER RADICAL HYSTERECTOMY
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Background: The purpose of this study was to retrospectively analyze outcomes and complications of adjuvant chemoradiation versus adjuvant radiation alone in patients with early stage cervical cancer treated with primary type II radical hysterectomy (RH).

Methods: A cohort study of 332 patients with BMI of underweight (<18.5), normal weight (18.5-24.9), overweight (25.0-29.9) and obese (30 or greater) who underwent radical abdominal hysterectomy and lymphadenectomy at a single institution from 1990 to 2003 was conducted. Chart review obtained data regarding BMI at the time of surgery, margin status, operative complications, recurrence, estimated blood loss and length of operating time.

Results: Compared to women with a BMI less than 30, obese women did not have a statistically significant difference in frequency of positive vaginal (6.3% vs. 1.2%, respectively, p = 0.555) or parametrial margins (4.2% vs. 1.2%, respectively, p = 0.770). These groups also had a similar frequency of recurrence (16.0% vs. 2.4%, respectively, p = 0.461).

Conclusions: Preliminary data suggest that margin status and risk of recurrence is not influenced by the BMI at the time of radical abdominal hysterectomy for cervical cancer. Further analysis of data regarding overall survival and disease-free survival is being performed.

0565
THE INFLUENCE OF BODY MASS INDEX ON OUTCOMES IN CERVICAL CANCER PATIENTS TREATED WITH RADICAL ABDOMINAL HYSTERECTOMY
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Aims: To determine if body mass index (BMI) at the time of radical abdominal hysterectomy for cervical cancer influences surgical parameters, recurrence, disease-free survival or overall survival.

Methods: A cohort study of 332 patients with BMI of underweight (<18.5), normal weight (18.5-24.9), overweight (25.0-29.9) and obese (30 or greater) who underwent radical abdominal hysterectomy and lymphadenectomy at a single institution from 1990 to 2003 was conducted. Chart review obtained data regarding BMI at the time of surgery, margin status, operative complications, recurrence, estimated blood loss and length of operating time.

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0566
COMPUTER TOMOGRAPHY (CT) BASED TREATMENT PLANNING IN CERVICAL CANCER BRACHYTHERAPY: ANALYSIS OF DOSE-VOLUME HISTOGRAMS (DVHS)
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0565
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© 2006 IGCS, International Journal of Gynecological Cancer 16 (Suppl. 3), 695–763
Background: Intracavitary radiation (ICR) is an essential component of higher local control in cervical cancer. ICR has not been tailored treatment for each patient, but dependent on general rules and clinician’s experience. To assess 2-D orthogonal radiography-based brachytherapy (BT) planning by 3-D treatment planning technique based on CT.

Methods: Ten patients with cervical cancer (FIGO IB-IIIB) underwent 2-D orthogonal radiography-based BT treatment planning and then CT scan with HDR intracavitary applicators in place. Volume delineation was executed according to gynaecological (GYN) GEC ESTRO working group recommendations. Dose was prescribed to Point A with 5 Gy per fraction. The planning was analyzed DVHs at time BT (GTVB), High risk CTV for BT (HRCTV), rectum, bladder.

Results: The mean GTVB was 12.9 cc (1.7–17.3) and the mean HRCTV was 55.7 cc (13.6–67.0). The mean D100, D90 for GTVB were 97.1% (80.8–100), 98.9% (89.3–100) and the mean D100, D90 for HRCTV were 91.6% (66.1–100), 94.7% (75–100). A large sized tumor in one patient had not encompassed by the prescribed at Point A. Our study also showed that the D5 cc, D10 cc for rectum were 66.9% (43.2–101.1), 51.7% (29.9–74.3) and the D5 cc, D10 cc for bladder were 87.5% (57.6–111.5), 62.3% (35.5–91.7). In one patient, D5 cc for rectal dose was over 100% and 4 patients at D5 cc for bladder dose.

Conclusion: CT-based brachytherapy planning for cervical cancer will enable to evaluate the dose distributions for tumor and critical organs at risk. So, rectal and bladder morbidity as well as geographic miss will be reduced in case of the patient with bulky disease.

0567
EFFECTIVENESS OF PREOPERATIVE CHEMORADIOThERAPY IN PATIENTS WITH TIB-IIA NO-1M0 SQUAMOUS CERVICAL CANCER IN COMPARISON WITH CHEMORadioThERAPY ALONE

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Objective: to assess the effectiveness of preoperative chemoradiotherapy in patients with TIB-IIA NO-1M0 squamous cervical cancer in comparison with chemoradiotherapy alone.

Methods: prospective randomized clinical trial started in the year 2005. 38 patients were included to the trial. 2 were excluded due to adenosquamous histological cancer type. 10 patient received surgery (type III radical hysterectomy with lymphadenectomy) followed chemoradiationtherapy. 15 were treated by chemoradiotherapy alone (chemotherapy, distant radiotherapy and brachitherapy). 11 patients are receiving chemoradiotherapy at this time.

Results: There were no intraoperative surgical complications in surgery group. In 1 case paraaortic metastases were diagnosed and radiotherapy was applied to paraaortic side. For this patient ureterovaginal fistula occurred on the 22 postoperative day. The presence of cancer in cervix after chemoradiotherapy and surgery was found in 2 cases and positive nodes - in 3 cases. In postoperative period all patients suffered from urine retention. Postoperative pyelonephritis diagnosed in 2 cases. At this time 1 recurrence in cervix was diagnosed in the group of chemoradiotherapy alone.

Conclusions: First results of this study indicate that chemoradiotherapy alone (chemotherapy, distant radiotherapy and brachitherapy) is insufficient in the treatment of bulky cervical cancer. Preoperative radiotherapy did not seem to complicate course of radical hysterecomy. The results of this prospective randomized research will be purposeful to evaluate effectiveness of these two treatment strategies.
LAPAROSCOPIC EXTRAPERITONEAL PARAORTIC LYMPHadenectomy FOR ADVANCED STAGE CERVICAL CANCER: TURKISH EXPERIENCE

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Aim: To evaluate para-aortic area via extra peritoneal laparoscopy for determining radiotherapy field in advanced stage cervical cancers.

Material and Method: Laparoscopic extra peritoneal para-aortic lymphadenectomy performed to 31 advanced stage cervical cancers between December 2003 and February 2006. Ages of patients were between 30 and 68. Twenty-five of patients were stage Ib2, 2 of stage IIa, 4 of stage IIb. Twenty six of patients were squamous cell carcinoma, 4 of adenocarcinoma, and 1 of adenosquamous carcinoma.

Mean surgery duration were 120.61 (70-210) minutes. Number of total obtained para-aortic lymph nodes were 443 and mean number of paraaortic lymph nodes were 14.29. Paraortic lymph node metastasis detected in 8 of 31 cases (25.8 %) and number of metastatic lymph nodes were 58 (13.09 %). Conversion to laparotomy occurred only in 4 cases during laparoscopy procedure. (one due to renal artery injury).

Conclusion: Proper evaluation of paraaortic area is crucial for the prevent patients inadequate treatment in one of 4 patients via only pelvic radiotherapy and over treatment in 3 of 4 patients via extended field abdominal radiotherapy. According to current knowledge and techniques; laparoscopic extraperitoneal paraaortic lymphadenectomy seems to be most reliable with less morbidity way to evaluate para-aortic area and it may have more popularity in near future.

AGGRESSIVE MANAGEMENT OF RIGHT VENTRICULAR METASTASIS FROM A PRIMARY CERVICAL CARCINOMA

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The heart is a frequent site of secondary involvement by metastatic tumors. We present a case of right ventricular metastasis from a primary cervical carcinoma.

GB, a 48 year-old woman. The diagnosis of squamous cell carcinoma of the cervix clinical IIIb was established. Radiation therapy was initiated and finished. After 4 years the patient was admitted to the hospital with the suspected diagnosis of right heart myxoma. CT scan was confirmatory with heterogeneous tumor 4x4x10 cm size. We took an aggressive surgical approach. The histological examination revealed that masses are metastatic thrombus formation with islets of moderately differentiated squamous cell carcinoma (SCC) with the invasion to endocardium. These findings suggested that the cardiac mass was a metastasis from a primary cell carcinoma.

The chemotherapy was instituted. After the treatment patient’s condition markedly improved and she remained clinically stable for 12 months from the heart operation. After a year the patient’s condition worsened and decompensation of cardiopulmonary function developed. She was readmitted to the hospital and subsequently expired metastasis from a primary cervical carcinoma.

Conclusions: 1. The stage of the disease at the initial presentation does not predict the development of cardiac metastasis.

2. Clinical presentation of metastatic cardiac involvement is determined mostly by tumor location and size.

3. Recognition of metastatic heart involvement often is delayed because of late index of suspicion, yet it is almost always detectable by standard noninvasive.

4. Taking an aggressive approach, including surgical management, may lengthen patient’s survival and improve the quality of life.

FERTILITY CONSERVATIVE TREATMENT IN EARLY CERVICAL CANCER

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Objective: To evaluate the therapeutic efficacies of preserving fertility treatment in patients with early cervical cancer. Methods 16 patients with early cervical cancer treated by laparoscopic vaginal radical trachelectomy and pre-or-postoperative chemotherapy were analyzed retrospectively, focusing on the treatment indication and management of high risk patients.

Results: The median age was 29 years (range 26–34 years). 11 were nulligravid and 4 multipara, but all patients have a desire to maintain fertility. For FIGO stage, 2 were stage Ia2;13 were stage Ib1 and 1 was stage Ib2. 15 patients have squamous cell carcinoma and 1 have adenosquamous cell carcinoma. Mean operative time was 3 hours and 12 minutes and mean blood loss was 320ml. There was no intra-or postoperative complications. With mean follow-up time of 13 months, one patient had recurrence (6.3%) and no one had pregnancy.

Conclusions: It is possible to preserve fertility in the treatment of patients with early cervical cancer, but treatment indication should be considered carefully. The management of high risk patients should be investigated deeply.

HUMAN PAPILLOMAVIRUS GENOTYPES AND COFACTORS CAUSING CERVICAL INTRAEPITHELIAL NEPLOASIA AND CERVICAL CANCER IN KOREA

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Background and Aims: HPV infection is a necessary cause of cervical cancer, but the risk associated with the various HPV types and related cofactors have not been adequately assessed in Korea.

Methods: To investigate genotype distribution of HPV and cofactors related to the development of cervical cancer, we conducted a case-control study in 218 women with cervical neoplasia (113 cases of CIN and 105 cases of carcinoma) and 1242 healthy-controls. PCR-based dot-blot assays were used for detection of 16 high-risk HPVs. To clarify the cofactors, we obtained a questionnaire on diet, smoking, drinking, oral contraception, sexual and reproductive history.

Results: HPV DNA was detected in 79.6% of women with CIN and 95.2% in carcinoma compared with 14.3% in controls. The most common HPV types in patients, in descending order of frequency, were types 16, 58, and 18 for CIN, and 16, 18, and 31 for carcinoma. Smoking and higher-number of births (>=3) were associated with CIN (OR 2.15, 95% CI 1.03–4.50, and OR 2.32, 95% CI 1.12–4.83, respectively), and these effects were maintained in carcinoma (OR 3.8, CI 1.62–8.92, and OR 2.55, CI 1.20–5.40, respectively). Risk of women with husband’s extra-marital affairs was elevated (OR 2.51, CI...
1.15–5.45), and sexual habit of condom-use was protective factor for carcinoma (OR 0.16, CI 0.05–0.52).

**Conclusion:** HPV 16, 18, 31, and 33 are the major genotypes for cervical neoplasia in Korea. Smoking and multiparity appeared to be the most significant cofactors.

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**0574**

**COMBINED RADIOTHERAPY AND CHEMOTHERAPY TREATMENTS FOR ADVANCED CERVICAL TUMORS: MRI AS FOLLOW-UP**

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**Introduction:** Chemotherapy treatment has been recently introduced for patients diagnosed with advanced cervical tumors that were previously treated exclusively with radiotherapy. RECIST criteria used for evaluating the response to chemotherapy treatment for solid tumors are based on image exams. MRI is the main imaging tool to evaluate pelvic response and predict therapeutic results. Purpose: To evaluate the response to combined radio and chemotherapy in advanced cervical tumors using RECIST criteria based on the MRI exams. Materials and Methods: Using RECIST criteria, 32 women diagnosed with advanced cervical tumors were studied prospectively. Patients underwent MRI at three phases: at staging, at post-treatment with combined chemo and radiotherapy, and the last one two months after brachytherapy. All the patients received the same treatment and underwent the same exam protocol with Phased-Array and endovascular contrast. RECIST criteria were applied so that the patients undergoing the combined treatment could have follow-up parameters. Results: MRI proved to be excellent for the evaluation of combined chemo and radiotherapy. It was possible to apply RECIST criteria in all cases. Patients who presented partial response or stable disease in the second MRI showed a worse prognostic even though they had complete response after brachytherapy. Conclusion: MRI is a good image method for the evaluation of combined chemo and radiotherapy, besides allowing for the prediction of possible results.

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**0575**

**ACCEPTABILITY AND RELIABILITY OF SELF-SAMPLING FOR HPV DNA TESTING - AN INDIAN PERSPECTIVE**

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**Background and Aim:** Human papillomavirus (HPV) DNA testing is a good primary screening test for cervical neoplasia. Self-sampling has been shown to have good concordance with physician-collected cervical samples. This could be useful for screening in settings with inadequate infrastructure. Its acceptability by women in India has not yet been reported.

**Method:** The study group comprised of 511 women attending the Gynaecology outpatient department with persistent discharge, intermenstrual bleeding, postcoital bleeding or unhealthy cervix. They were explained the self-sampling procedure using a chart and asked to provide an unsupervised sample for HPV DNA using the Digene® kit. The physician then collected a pap smear and a cervical sample for HPV DNA. Women were asked questions pertaining to acceptability. HPV testing was done on both samples by the Roche® line blot assay.

**Results:** The majority (75.6%) belonged to the lower or middle socioeconomic class, 65.5% were illiterate or only primary educated. Overall, 47.7% preferred self-sampling, 44.1% preferred physician-sampling, 8.2% were non-committal, 52.7% found self-sampling easier and less painful while 51.3% felt the physician-sample would be more adequate. However, 98% were able to provide an adequate sample.

There was 93.8% agreement between the two sampling techniques in terms of type(s) of HPV detected (P = 0.045). Sixteen high-risk HPV types were detected, the majority being 16 and 18.

**Conclusions:** Self-sampling is an acceptable and reliable method for India. If a cheap test is developed, it can be used as a primary method for cervical cancer screening in remote areas.

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**0576**

**A COMPARISON OF DIGITAL ASSESSMENT OF THE REPRODUCTIVE TRACT (DART) VS. COLPOSCOPY FOR DETECTION OF INTRAEPITHELIAL NEOPLASIA OF THE UTERINE CERVIX**

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**Background:** Digital Assessment of the Reproductive Tract (DART) uses a digital camera in place of a colposcope to evaluate abnormal pap smears. Advantages of DART include, lower cost, ease of transport, creation of a permanent image and ability to electronically transmit information. The purpose of this study was to evaluate if DART was equivalent to colposcopy in detection of CIN II and above.

**Methods:** Two hundred women with abnormal pap smears were each evaluated by 2 physicians. The first physician used DART to evaluate the cervix and noted where he/she would perform a biopsy. The second physician, blind to the DART result, then performed a standard colposcopic exam. The colposcopist compared the findings and took biopsies from all indicated areas. If neither identified a lesion, biopsies were taken at 10 and 2 o’clock positions.

**Results:** Two hundred patients participated, thirty-six were positive for CIN II and higher. DART detected 31 of 36 of these patients for a sensitivity of 86.1% (C.I. 81.0-91.4) and colposcopy detected 34 of 36 patients for a sensitivity of 94.4% (C.I. 89.1-99.7). No patients with invasive cancer were missed by using the DART method.

**Conclusion:** The use of a digital camera to direct biopsies of women with abnormal pap smears is feasible in a developing country setting. A slight decrease in sensitivity may be tolerable in areas where it is unrealistic for women to undergo colposcopy. Although this pilot study does not have significant power to demonstrate equivalence, DART is a promising technique with specific advantages over colposcopy.

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**0577**

**PSYCHOSOCIAL FACTORS AND THE BEHAVIOUR OF CIN**

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Background and Aims: Psycho-immunology studies in humans are rare. The cervix pathology offers a good possibility for study and follow-up. The premalignant stages of cervical cancer have a well-known behaviour and are easy to observe (colposcopically) without interventions. Human Papilloma Virus (HPV) is often involved and persistence of the virus by an inadequate immune response is responsible for the change from normal epithelial to premalignant cells. The aim of this study is to investigate the effect of psychosocial events on the natural behaviour of CIN.

Methods: We studied the Psycho-Neuro-Immuno-Logical pathway on patients with a CIN lesion. We used the “stressor-support-coping” (SSC) model (Goodkin). The outcome parameters were progression or regression of CIN. Part 1: A cross-sectional study assessed negatively related life events, social support and coping style in relation to distress and grade of CIN (n = 393). Part 2: In an observational study the course of CIN was investigated during the follow-up of CIN I and CIN II for more than 2 years (n = 93).

Results: 1. Life events, social support and coping style predicted distress. 2. No significant influences of life events, social support, coping style and distress on the level or course of CIN was found.

Conclusions: The SSC model applied in this clinical study focuses on promotion of CIN rather than initiation. Hypothetically, psychosocial factors and their influence on the immune-system may be of greater importance at an earlier stage in the process of carcinogenesis, at the initial contact with HPV.

0578
ANTERIOR EXENTERATION IN URETHRAL ADENOCARCINOMA IN FEMALES- A RARE CLINICAL ENTITY

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Introduction: Carcinoma Urethra is rare constituting 0.1% of urinary neoplasms. It is common in aged females, urinary obstruction being the commonest symptom, SCC & TCC being commoner, only 15% are adenocarcinoma. Diagnosis is late and hence the outcome is poor. We report 2 cases of urethral adenocarcinoma who underwent radical surgery.

Case no-1 51 yr old female, underwent Abd.hyst in July 97 for fibroids. In June 98, she underwent urethral polyectomy and received adjuvant RT as histopathology was Papillary adenocarcinoma. Diagnosis is late and hence the outcome is poor. We report 2 cases of urethral adenocarcinoma who underwent radical surgery.

Case no-1 51 yr old female, underwent Abd.hyst in July 97 for fibroids. In June 98, she underwent urethral polyectomy and received adjuvant RT as histopathology was Papillary adenocarcinoma. Diagnosis is late and hence the outcome is poor. We report 2 cases of urethral adenocarcinoma who underwent radical surgery.

Case no-2 51 yr old female, underwent Abd.hyst in July 97 for fibroids. In June 98, she underwent urethral polyectomy and received adjuvant RT as histopathology was Papillary adenocarcinoma. Diagnosis is late and hence the outcome is poor. We report 2 cases of urethral adenocarcinoma who underwent radical surgery.

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stenos with a hematometrium 6 months after the conization. Three times a cervical dilatation was attempted. Ultimately, a laparotomy was done to perform an antegrade dilatation of the stenosis. After this procedure she menstruated normally. She used contraception during one year and was active child wish since 2 months. Both patients have no evidence of relapse, respectively 25 and 15 months after the conization.

Conclusion: NAC followed by conization seems to be a promising treatment modality in patients with a cervical cancer stage IB1 (T2, 2 cm), who wish to preserve their fertility.

0581 COMPARISON OF THE LIQUID-BASED CYTOLOGY AND CONVENTIONAL CYTOLOGY FOR CERVICAL PAP TEST C. Celik1, K. Gezginç2, H. toy3, S. keskin3, O. yılmaz3 1Obstetrics and Gynecology; 2Pathology, Selcuk Univ Meram Med Fac, Konya, Turkey

Background and Aims: To compare the efficiency of the liquid-based cytology and conventional cytology for cervical Pap test.

Methods: This study was performed in the Selcuk Univ Meram Med Fac between January 2005 and March 2006. 1100 patients were included. The Pap test consisted of 1100 liquid-based cytology and 1100 conventional cytology. All slides were reviewed by two different pathologists.

Results: Unsatisfactory Pap test results were lower in liquid based cytology (65/1100 [5.9%]) compared with conventional cytology (65/1100 [5.9%]) (p < 0.05). ASCUS rates were higher than conventional cytology but there was no statistical difference. There was not any statistically significant difference for other epithelial abnormalities between liquid-based and conventional cytology (p>0.05).

Conclusions: Liquid- base cytology decreased the unsatisfactory results for cervical cytology. But there was not found any difference between liquid and conventional cytology for epithelial abnormalities.

0582 A PHASE II TRIAL OF TOPOTECAN AND CISPLATIN IN PATIENTS WITH METASTATIC OR RECURRENT SQUAMOUS CELL CARCINOMA OF THE CERVIX L.M. Dawson1, G.C.E Stuart2, A. Ozra3, M. Ricci3, M. Fung Kee Fung2, M. Plante6, D. Provencher7 1Memorial University of Newfoundland, St. John’s; 2University of British Columbia, Vancouver; 3Princess Margaret Hospital, Toronto; 4Glaxo SmithKline; 5Ontario Regional Cancer Centre, Ottawa; 6Centre Hospitalier Universitaire De Quebec, Quebec City; 7Hopital Notre Dame, Montreal, Canada

Background and Aims: This study planned to evaluate the efficacy and safety of topotecan and cisplatin in the treatment of advanced or recurrent squamous cell cancer of the cervix.

Methods: 40 women with advanced or recurrent bidimensionally measurable cancer of the cervix were enrolled in this phase II trial. Treatment included: topotecan 1.00 mg/m2 on days 1-3 and cisplatin 50 mg/m2 on day 1 every 3 weeks. The primary endpoint was response rate and the secondary endpoints were safety, survival and quality of life scores.

Results: A total of 162 courses of chemotherapy were administered to 40 patients. The mean number of courses was 4.1 (1-8) delivered at greater than 95% of the planned dose. The response rate seen in the ITT and per protocol patients was (5% and 6.3%) complete responses and (15% and 12.6%) partial responses. Stable disease was seen in 22.5% and 25% of patients, respectively. Time to progression was 16 weeks and overall survival was 38 weeks. Thirty eight patients (95%) had grade 3 or 4 neutropenia. Febrile neutropenia or sepsis were seen in 17.5% of patients. G-CSF was used in 10% of patients. Seven patients (18%) discontinued the regime due to serious adverse events. All 30 deaths were attributed to progressive disease.

Conclusions: This trial confirms the feasibility of this regime for treatment of advanced or recurrent squamous cancer of the cervix. At the dose tested, the toxicity was often manageable but neutropenia was notable. The overall response rate demonstrates that the combination offers a clinical benefit.

0583 INTRACA VITARY MEDIUM DOSE RATE BRACHYTHERAPY IN VAIN: A 20 YEAR RETROSPECTIVE REVIEW K. Graham1, K. Wright2, B. Cadwallader3, N.S. Reed4, R.P. Simmonds5 1Beatson Oncology Centre, Western Infirmiry, Glasgow; 2Northern Centre for Cancer Treatment, Newcastle General Hospital, Newcastle; 3Department of Cancer Medicine, Leicester Royal Infirmary, Leicester, UK

Background and Aims: Vaginal intraepithelial neoplasia (VAIN) is a rare premalignant condition with no consensus on optimal management. The aim of this study was to assess the outcome of VAIN treated by brachytherapy at a single institution over a twenty year period.

Methods: A retrospective review of medical records was performed 1985-2005 inclusive based on hospital admissions with an ICD diagnosis of VAIN.

Results: 22 patients with pathologically confirmed VAIN3 were treated with intracavitary brachytherapy. Median age at time of treatment was 56 years (range 39 - 70). The majority of patients were post-menopausal (82%) smokers (77%) who presented asymptomatically following hysterectomy for cervical dysplasia/neoplasia. Medium dose rate Selectron was the method of choice, typically 48Gy prescribed to point Z over two insertions one week apart. Acute toxicity was minimal. Late toxicity was documented as follows: bowel (18%); urinary (13.5%); vaginal stenosis (9%) and ulceration (4.5%). Unfortunately, sexual/psychosexual sequelae were rarely recorded. Recurrence of VAIN was documented in two patients, both of whom also developed invasive vaginal carcinoma. One was successfully treated by external beam radiotherapy while the other died of post operative complications following pelvic exenteration. Second gynaecological malignancy occurred in one case 14 years after initial treatment and was suspected in a further patient who succumbed to metastatic squamous cell carcinoma of uncertain origin. Median follow-up was 77 months and progression free survival was 171 months.

Conclusions: Medium dose rate brachytherapy is a well tolerated form of treatment for VAIN3 but patients must be counselled regarding potential toxicity. Long term follow up is advised due to risk of recurrence and second malignancy.