



Abstract #726 Figure 1 Forest plots assessing CIN2+ recurrence rates between HPV vaccinated and non-vaccinated group after local conservative treatment for CIN irrespective of HPV type

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#729 PCNA IN CERVICAL INTRAEPITHELIAL NEOPLASIA AND CERVICAL CANCER: AN INTERACTION NETWORK ANALYSIS OF DIFFERENTIALLY EXPRESSED GENES

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Introduction/Background The investigation of differentially expressed genes (DEGs) and their interactome could provide valuable insights for the development of markers to optimize cervical intraepithelial neoplasia (CIN) screening and treatment. This study investigated patients with cervical disease to identify gene markers whose dysregulated expression and protein interaction interface were linked with CIN and cervical cancer (CC).

Methodology Literature search of microarray datasets containing cervical epithelial samples was conducted in Gene Expression Omnibus and Pubmed/Medline from inception until March 2021. Retrieved DEGs were used to construct two protein-protein interaction (PPI) networks. Module DEGs that overlapped between CIN and CC samples, were ranked based on 11 topological algorithms. The highest-ranked hub gene was retrieved and its correlation with prognosis, tissue expression and tumor purity in patients with CC, was evaluated.

Results Screening of the literature yielded 9 microarray datasets. Two PPI networks from CIN and CC samples were constructed and consisted of 1704 and 3748 DEGs along 21393 and 79828 interactions, respectively. Two gene clusters were retrieved in the CIN network and three in the CC network. Multi-algorithmic topological analysis revealed PCNA as the highest ranked hub gene between the two networks, both in terms of expression and interactions. Further analysis revealed that while PCNA was overexpressed in CC tissues, it was correlated with favorable prognosis (log-rank $P=0.022$, $HR=0.58$) and tumor purity ($P=9.86 \times 10^{-4}$, partial $\rho=0.197$) in CC patients. This study identified that cervical PCNA exhibited multi-algorithmic topological significance among DEGs from CIN and CC samples. .

Conclusion Our study identified that cervical PCNA exhibited multi-algorithmic topological significance among DEGs from CIN and CC samples. Overall, PCNA may serve as a potential gene marker of CIN progression. Experimental validation is necessary to examine the screening, diagnostic and prognostic value of PCNA in patients with CIN and CC.

Disclosures n/a

#734 10 YEARS FOLLOW-UP OF POSTOPERATIVE QUALITY OF LIFE IN PATIENTS WITH EARLY STAGE CERVICAL CANCER – PROSPECTIVE STUDY

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Introduction/Background The survival in early stages of cervical cancer has improved dramatically. An issue of quality of life after surgery has become relevant. The aim of this study is to evaluate the quality of life of patients who have undergone radical or less radical surgery of cervical cancer.

Methodology Between 2007 and 2011, 100 patients undergoing surgery for cervical cancer (stage IA2-IB2) were included. Patients filled a quality of life questionnaires EORTC QLQ-C 30 and CX 24 before surgery, 6, 12 and 120 month after surgery. For final evaluation at follow-up at 120 months 54 patients were used. Of them 23 underwent conservative surgery (laparoscopic lymphadenectomy plus simple trachelectomy/simple hysterectomy, CONS group) and 31 radical surgery (abdominal radical hysterectomy type C1 - RAD group). **Results** At 6 month post surgery RAD group exhibited more menopausal symptoms and worse Physical functioning compared to CONS. Compared to preoperative period patients in CONS group had more symptoms regarding lymphoedema and neuropathy and slightly worse Physical functioning while they had improved outcomes in Role, Emotional and Social functioning. In RAD group patients had more Sexual worries. At 120 month post surgery RAD group exhibited worse outcomes in Lymphoedema, Peripheral neuropathy, Postmenopausal symptoms, Fatigue, Pain and Physical functioning compared to CONS group.

Conclusion Cervical cancer treatment is associated with negative impact on quality of life, which can persist for years following treatment. Most of the women included in our sample reported worsening in the areas of role functioning, emotional functioning, pain, peripheral neuropathy, menopausal symptoms and sexual activity as a consequence of treatment for cervical cancer. Radical group suffered from more symptoms. **Disclosures** This study has been supported by Cooperatio program, Maternal and Childhood Care No. 207035, 3rd Medical Faculty, Charles University.

#749 OPTIMIZING BRACHYTHERAPY APPLICATORS IMPLANTATION IN LOCALLY ADVANCED CERVICAL CANCER WITH TRANSRECTAL ULTRASOUND GUIDANCE

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Introduction/Background Brachytherapy is a key step in the treatment of locally advanced cervical cancer (LACC). We aim to report our experience with the use of transrectal ultrasound (TRUS)-guided implantation of brachytherapy applicators.

Methodology A monocentric retrospective study was conducted at the University Hospital of Liège between January 2018 and August 2022, including 141 patients who underwent intracavitary ± interstitial applicator implantation with TRUS guidance for high-dose-rate image-guided adaptive brachytherapy (HDR-IGABT) for a total of 274 procedures. The procedure and the treatment planning with magnetic resonance imaging (MRI) were analyzed. Accuracy of implantation, D95 for high-risk clinical target volume (HR-CTV), organs-at-risk (OAR), dose constraints D2cc (minimal dose of the 2cc with the highest dose), complications and local control were described.

Results The procedure was successfully performed in 273 (99.6%) cases, with only one requiring immediate readjustment due to inappropriate implantation. 266 procedures (97%) were conducted with routine material (ring and tandem applicator ± interstitial needles), and 8 (3%) required adapted material due to intraoperative anatomical difficulties. Based on MRI, we have reported 7 (2.5%) cases of complete uterine perforation through endoluminal applicator and 2 (0.7%) cases of intestinal perforation by interstitial needles. These 9 cases of perforation had no subsequent clinical consequences. The mean D95 HR-CTV was 83.3 Gy, while mean rectum, sigmoid, and bladder D2cc were 60.4, 56.6, and 75.4 Gy, respectively. With a median follow-up of 19.1 months, local control was achieved in 125 patients (88.7%).

Conclusion In this study, all patients with LACC benefited from IGABT, and no procedure withdrawal were necessitated. The use of TRUS intraoperative guidance allows the applicators implantation optimization. This appears to be a reliable and effective method resulting in high local control rates for LACC patients with a low rate of clinically meaningful complications.

Disclosures /

step modified Delphi method was used to establish consensus. After a first round of online survey, the questions were amended and a second round, along with semi-structured interviews was performed. Consensus was defined if a step was considered recommended, optional or not recommended using a 70% cut-off for agreement.

Results Twenty-five of 38 (65.8%) experts responded to the online survey. Agreement >70% was reached in 13 (52.0%) questions at first round and 15 (60.0%) at final round. Figure 1 shows the consensus agreement which identified 15 recommended, 3 optional and 5 not recommended steps. Agreement of 70% was not reached for ICG concentration, total volume of tracer injected, timing of injection, approach to SLN in case of radical hysterectomy or radical trachelectomy, exposure of retroperitoneal spaces before dissecting SLN, how to approach multiple SLNs, avoid empty packets, or how to retrieve SLN. In 32% of cases, experts suggested the use of frozen section to confirm nodal tissue and exclude metastasis.

Conclusion Recommended, optional and not recommended steps of SLN dissection in cervical cancer have been identified based on consensus among international experts. An operation guide may be used by surgeons in clinical trials and for quality assurance in routine clinical care.

RECOMMENDED STEPS	OPTIONAL/ACCEPTABLE STEPS	NOT RECOMMENDED STEPS
<ul style="list-style-type: none"> Use ICG (100%) Inject at 8 and 9 o'clock (72%) Superficial (with or without deep) injection (100%) Grasp cervix with forceps only if part of cervix is free of tumor (88%) In case of tumor completely replacing cervix: inject at the margins of uninvolved mucosa avoiding vaginal fornices (88%) In case of simple trachelectomy/conization: MIS for SLN (88%) Identification of following structures before SLN excision: <ul style="list-style-type: none"> Liver (88%) Obliterated umbilical artery / Superior vesical artery (88%) External iliac artery and vein (88%) Direction of dissection: start at uterine artery and continue laterally away from the uterus (88%) Dissection/section should be completed in one hemi-pelvis before proceeding to contralateral side (90%) Parametrial SLN can be found medial to obliterated umbilical artery (90%) Grasp the node only at the afferent/efferent channels (not at the center) (88%) Labeling of specimens: obturator, internal iliac, external iliac, common iliac, aortic/para, presacral (88%) Pathologic assessment: H&E first and then re-staging if macrometastases not found (92%) What to do in case of mapping failure: perform a side-specific lymphadenectomy (84%) If empty lymph node packet at final histology: reoperate with lymphadenectomy only if serine factor/retained SLN (on one side) are not sufficient to define adjuvant treatment (84%) 	<ul style="list-style-type: none"> Blue dye (70%) and radiotracer acceptable (92%) Haemostatic clips could be used during SLN excision (72%) Perform frozen section if suspicious for metastasis or to avoid empty lymph node packets (72%) 	<ul style="list-style-type: none"> Inject at 6 and 12 o'clock (76%) Injection in the tumor in case of tumor completely replacing cervix (88%) Removal of nodes through port without protective maneuvers (88%) Pathologic assessment: H&E only (88%) Abundant concentration of tracer at time of resection in case of mapping failure (72%)

Abstract #756 Figure 1 Recommended algorithm (experts agreement % in parenthesis)

Disclosures None

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CONSENSUS ON SURGICAL STEPS FOR SENTINEL LYMPH NODE DISSECTION IN CERVICAL CANCER

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Introduction/Background Sentinel lymph node (SLN) biopsy is routinely performed in early cervical cancer. Variation in surgical techniques impacts diagnostic accuracy and poses barriers to the comparison of outcomes across institutions. Standardization of technique and quality assessment tools are critical. The purpose of this study was to establish a consensus on the surgical steps of SLN dissection in cervical cancer.

Methodology A survey containing 26 questions was emailed to international expert gynecological oncology surgeons. A two

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IN STAGING OF LYMPH NODE POSITIVE CERVICAL CANCER, THE WIND IN THE AJCC WAS CALMED AND MATCHED WITH FIGO STAGING. FIGO STAGING IS ESSENTIAL, BUT AJCC'S SOUND IS GOOD

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Introduction/Background American Joint Committee on Cancer (AJCC) released its 9th-version in 2021 similar as FIGO-2018. Previously, there was a mismatch between the FIGO and AJCC stages. While lymph node (LN) involvement did not change the stage in FIGO-2009, in AJCC-7th, the presence of pelvic LN was staged as IIIB, the presence of PA-LN as IVB. In AJCC-8th, the presence of LN did not affect AJCC prognostic stage groups. In this study, stage distributions according to the changing FIGO and AJCC (TNM) staging system in patients with LN-positive cervical cancer were examined.