

**Methods** The necessary data was obtained by medical chart review, interview with the patient, image diagnose exams and literature review.

**Results** The development of osteosarcoma at the same time of another cancer is a rare fact. The risk factors and the origin of this tumor remains controversial. It is clearly that ionizing radiation can induce sarcoma. It is difficult to make systematic studies due to the rarity of these cases. For uterine cervical cancer stages IB2 to IVA radiotherapy associated with cisplatin for up to six cycles (chemoradiotherapy) has been the first line treatment choice with good results. The sarcomas post radiotherapy are rare. Usually appear 10 to 14.3 years post-treatment, the incidence comprises about 0.1% of all cancer cases and women are more affected because gynecological cancers are more frequently subjected to radiotherapy with a long-term survival.

**Conclusions** This case is relevant due to the length of time over which patients treated with radiotherapy may remain to be diagnosed with bone disease. A post-radiation sarcoma should be considered and differentiated from bone metastasis. To early diagnose is important to allow full treatment, providing a longer disease free survival.

## IGCS19-0662

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### A RETROSPECTIVE STUDY SHOWING THE SAFETY OF MINIMALLY INVASIVE SURGERY OF CERVICAL CANCER

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**Objectives** Cervical cancer (CC) is the fourth most common malignancy in women worldwide. Surgical treatment, including radical hysterectomy and pelvic  $\pm$  para-aortic lymphadenectomy, is the gold standard for women with early stage CC. Recently, the LACC trial demonstrated that minimally invasive surgery was associated with lower rates of disease-free survival (DFS) and overall survival (OS) than open surgery among women with early-stage CC. The aim of the current study was to present our experience with laparoscopic treatment of patients with CC in terms of OS and DFS as well as the type and site of recurrence.

**Methods** This was a retrospective analysis of a prospectively collected database of patients with CC who underwent laparoscopic surgery. The primary outcome of this study was to evaluate the 5-year OS and DFS. Secondary outcome was to compare the rate and the type of recurrences rate.

**Results** Ninety-one patients were included in this study. All patients underwent laparoscopic radical treatment; no conversion was required. DFS was  $33.7 \pm 27.2$  months. A total of 10 patients (11.0%) had recurrence diagnosed during follow-up. Site of recurrence were: pelvis in 6 cases (6.0%), lymph node in one case (1.0%), lung in two cases (2.0%) and both pleural and pelvis in 1 case (1.0%). Time to recurrence among patient who had recurrence was  $14.4 \pm 10.8$  months. OS was  $32.5 \pm 27.1$  months.

**Conclusions** Although we acknowledge the limitations of the study design, this retrospective series demonstrated the safety of laparoscopic radical treatment of patients with CC as demonstrated by the low rate of recurrence.

## IGCS19-0588

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### SENTINEL LYMPH NODE DETECTION IN PATIENTS WITH CERVICAL CANCER, A FEASIBLE PROCEDURE FOR A PUBLIC HOSPITAL IN GUATEMALA

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**Objectives** The objective is to evaluate the feasibility of sentinel lymph node (SLN) detection in patients with cervical cancer using the low-cost methylene blue dye and to optimize the application procedure.

**Methods** Patients with 2009 FIGO stage IA2 to Ib2 cervical cancer and subjected to abdominal radical hysterectomy and pelvic lymphadenectomy were enrolled. Methylene blue was injected, 1 mL in depth and 1 mL on the surface of the cervix at 3 o'clock and 9 o'clock. We enrolled 61 cases from 2013 to 2018 and surgically removed lymph nodes were examined for the blue lymph nodes that were considered as SLNs. After 20 min, it was shown with precision the lymphatic drainage until the first lymph node station from both sides.

**Results** A pooled detection rate of 85.2% (95% CI 82.3% to 91.6%). The positive predictive value and specificity were both 100% and sensitivity and negative predictive value were 90% and 97%, respectively. SLNs were identified in obturator and external iliac areas in 50% and 31.7%, respectively; no SLNs were discovered in the common iliac region.

**Conclusions** Blue dye cervical injection is a 'low-cost', safe, and a feasible procedure to detect Sentinel Lymph Node in carcinoma of the cervix. Other tracers, such as indocyanine green, are widely used in gynecological oncology, but with a higher cost of the product and the need of a dedicated optical filter to be shown on human view.

## IGCS19-0232

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### DRUG-INDUCED ENCEPHALOPATHY IN CERVICAL CANCERS TREATED WITH IFOSFAMIDE: A CASE SERIES AND REVIEW OF LITERATURE

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**Objectives** The incidence of cervical cancer in Indonesia ranks fourth with 17 per 100,000. Ifosfamide has been used for end-stage cervical cancer and recurrent cases, but this drug is associated with various side effects. Ifosfamide-induced neurotoxicity can be cranial nerve paralysis, to acute encephalopathy and reversible posterior encephalopathy. Until now, the incidence of ifosfamide neurotoxicity in our centers and how much this has affected patients is unknown. In this study we presented a series of encephalopathy cases found in cervix cancer patients who received ifosfamide chemotherapy.

**Methods** Retrospective study, study population are all cervical cancer patient who received ifosfamid chemotherapy from 2015–2017. There are five patients, we observed the onset of encephalopathy, diagnosed is enforced by neurologists using Meanwell criteria.

**Results** Five patients received ifosfamide - cisplatin chemotherapy, with differences initial condition, so that patient outcomes are different. Chemotherapy was given in one to six series, depending on the patient's response. Side effects such as encephalopathy appeared in four patients, while one patient managed to 'recover' and proven by pap smear test (no evidence of malignancy cell).

**Conclusions** Ifosfamid encephalopathy is a side effect that needs to be watched with symptoms that are diverse, but generally mild an in some cases can be progressive and fatale. Analysis of patient risk factors, patient education, and preparation for management of encephalopathy should be carried out in all cases who will receive ifosfamid. Methylene blue and thiamine can be a prophylactic and therapeutic choice in this condition.

## IGCS19-0413

### 168 RECURRENCE AND SURVIVAL AFTER ROBOTIC-ASSISTED RADICAL HYSTERECTOMY (RRH) FOR EARLY STAGE CERVICAL CANCER (CC): EXPERIENCE MAY MATTER

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**Objectives** In light of the LACC Trial results, we evaluated RFS and OS following RRH before and after 10 cases per surgeon.

**Methods** Patients with early-stage CC (4/2007–12/2017) who underwent RRH were evaluated and first 10 learning curve cases per surgeon (Group A) were compared to all subsequent cases (Group B). Inclusion criteria mirrored the LACC trial: > one-year follow-up, adenocarcinoma or squamous carcinoma, FIGO-2014 stage IA2 or IB1, and pathologic tumor size of  $\leq 4$  cm.

**Results** 144 RRH patients were identified and 90 met inclusion criteria from 6 attending surgeons. 40 patients met Group A and 50 Group B criteria. Median follow-up was  $61 \pm 34.3$  months (A=71.5, B=52.5). The 5-year RFS was 92% (95 CI $\pm 4\%$ ) and the DSDR 5.5% (n=5). There were 7(7.8%) recurrences with median RFS of  $12 \pm 8.3$  months. Recurrence in Group A (n=6, 15%) exceeded Group B (n=1, 2%),  $p=0.025$ . DSDR was 10% Group A vs. 2% B ( $p=0.184$ ). The 4.5-year RFS was 84.8% (95 CI $\pm 7\%$ ) in Group A vs. 98% (95 CI $\pm 3\%$ ) in Group B. There were no differences in risk factors for recurrence between groups A and B. (TS >2, LN (+), adjuvant therapy (AT), and LVSI  $p>0.05$ ), except (+) vaginal margin status (A=10% vs B=0%,  $p=0.034$ ). All recurrent cases had TS >2 cm.

**Conclusions** Recurrence of disease following RRH clustered in the first 10 cases per surgeon in our center and was associated with (+) vaginal margins and TS 2 cm. This data suggests an inter-surgeon variability and a possible learning curve effect.

## IGCS19-0390

### 169 ROBOTIC RADICAL HYSTERECTOMY (RRH) VERSUS CHEMO-RADIATION (CRT) FOLLOWED BY TYPE 1 ROBOTIC HYSTERECTOMY FOR 1B2 CERVICAL CANCER (CC)

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**Objectives** To compare peri-operative outcomes, RFS, and OS for patients with FIGO-2014 stage 1B2 CC treated by RRH versus CRT and brachytherapy (BT) followed by Type 1 robotic hysterectomy (RH).

**Methods** Patients with FIGO-2014 stage 1B2 CC (1/2007–12/2017) who underwent RRH (Group A) or CRT and VB followed by RH (Group B) were identified. Inclusion criteria included: adenocarcinoma or squamous cell histology; >12 month follow-up, tumor size (TS) >4 cm by either pathology in A or radiographic/clinical criteria in B, and no evidence of para-aortic node metastasis on imaging.

**Results** 15 group A (median TS=5.0 $\pm$ 1.2 cm) and 31 group B (median TS=5.0 $\pm$ 1.0 cm) pts were identified. Pre-operative imaging reported no positive nodes in A compared to 8 (25%) in B. 12(80%) required adjuvant CRT in group A. Median follow-up time was  $64 \pm 34.6$  months for A versus  $33 \pm 32.7$  months for B ( $p=0.059$ ). No (+) para-aortic nodes were identified in A versus 5 cases in B ( $p=0.15$ ). Recurrences were diagnosed in 3 (20%) A and 7 (22.5%) B cases. Median time to recurrence was  $15.0 \pm 49$  months for A compared to  $11.0 \pm 7$  months in B. 5-year RFS and OS was 80% & 84.7% (A) versus 78% & 83.9% (B). Complications included urinary fistula (n=3; 20%) and cuff dehiscence (n=1; 6.7%) in A versus one each for B (3.3%).

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Group	TS (cm)	LVSI	(+)Pelvic Nodes	Para-aortic Nodes sampled	(+)Para-aortic Nodes	(+) Vaginal Margin	(+) Parametria	Recurrence
A	5 $\pm$ 1.8	9; 60%	3; 20%	4; 26.6%	0	3; 20%	2; 14.3%	3; 20%
B	5 $\pm$ 1.0	4; 14%	5; 16%	31; 100%	5; 16%	0	7; 22.5%	7; 22.5%

**Conclusions** Despite having higher risk factors including para-aortic metastasis, patients with IB2 CC treated with CRT/BT/RH had similar RFS/OS to RRH, and with less fistulae and cuff dehiscence.