Conclusions This study maps available gynecologic and radiation oncology services for cervical cancer care in Africa. Our results suggest major gaps in infrastructure, human resources, and training. These data serve as a cervical cancer treatment capacity database, which can facilitate multi-national collaborative clinical, implementation and research projects.

Objectives Endogenous human retroviruses (ERVs) are remnants of exogenous retroviruses that have been integrated into the human genome. Some ERVs may become activated allowing epigenetic alterations through DNA methylation or histone modification, which can further translate into altered gene regulation or transcription. This is a novel area of exploration in cervical cancer.

Methods We applied ERV mapping tools to RNA-seq data from 63 cervical cancers to investigate expression of ~550,000 ERV elements from the Human Endogenous Retrovirus database (HERVd) to investigate ERV expression among various cohorts. We also investigated a diagnostic model, supplementing a baseline prediction model using FIGO stage, age and HPV-positivity with ERVs.

Results 98 ERVs were differentially expressed (padj < 0.1), with Black American patients having 40 upregulated and 58 downregulated (including MER21C, HERVH-int) ERVs when compared to white American patients. Of the 138 ERVs differentially expressed between early-stage and locally advanced-stage groups, 38 were upregulated, including ERV3, and 100 were downregulated. 26,916 ERVs were differentially expressed between HPV positive and negative cohorts. There were significant differences in ERV3 protein expression (p = 0.000905). While clinical parameters are predictive of progression free survival at p = 0.06027, our supplemented model (0.000905). While clinical parameters are predictive of progression free survival at p = 0.06027, our supplemented model combining a 67-ERV panel and the clinical data, discriminated the two risk groups at p = 9.433 x 10^-5.

Conclusions ERV RNA expression differences in cervical cancers is significantly different among racial cohorts, HPV-subgroups and disease stages. The correlation of ERV expression alongside clinical factors significantly improves prognostication when compared to clinical factors alone and may serve as future therapeutic targets.

Objectives Nowadays radical trachelectomy is the main surgical procedure in the treatment of invasive cervical cancer for patients who want to preserve fertility. In case intraoperative findings, large size of tumor which spreads onto the vagina or parametric, regional lymph nodes metastasis, patients require radiation therapy, which excludes the possibility of independent pregnancy.

Methods Today we observe 7 patients with stage Ib1-IIb cervical cancer. Median of their age is 29 year old. Five patients had not had pregnancies and all of them insisted on preserving fertility. At the first step of treatment, 2–3 courses of chemotherapy were carried out. The second step included a radical trachelectomy (Piver type III) with uterus transposition. The oncological stage of operation corresponded to a routine radical trachelectomy. Then, we made parauterine and perineal transposition to created conditions for performing the radiotherapy. The third step marked a combined radiotherapy which was carried out according to the prescribed standards. In three months a uterine reposition with utero-vaginal anastomosis was conducted. Currently, all the patients has no sign of recurrence and may start to realize pregnancy.

Results The patients have been under the median observation for 22, 6 months so far. All our patient’s menses have been recovered. No one has any signs of recurrence. Three of them are preparing to the in vitro fertilization.

Conclusions The uterine transposition makes feasible to provide a combined radiotherapy according to the prescribed standards and, thus, ensures, fertility preservation. It is very important to continue and carrying out research in this field.

Objectives Minimally invasive radioguided sentinel lymph node (SLN) procedures, increasingly performed with robot-assisted laparoscopy, currently rely on the use of a rigid laparoscopic gamma probe. We evaluated the safety and feasibility of a drop-in gamma probe system for SLN detection in patients with early-stage cervical cancer and compared its performance with the rigid gamma probe.

Methods Ten patients with FIGO stage IA1(LVS1+) – IB2 or IIA1 cervical cancer scheduled for robot-assisted laparoscopic SLN procedure were included. All patients underwent preoperative 99mTc-nanocolloid injection followed by SPECT/CT imaging. Intraoperatively, the tethered drop-in gamma probe SENSE® (Lightpoint Medical Ltd, Chesham, UK) was used for radioguided SLN detection, subsequently confirmed by the standard rigid laparoscopic gamma probe. We assessed SLN detection rates, anatomical SLN location and usability.

Results Overall and bilateral SLN detection rate with the drop-in gamma probe was 100% and 80%, respectively, which was confirmed by the rigid gamma probe. Combined use of preoperative SPECT/CT and drop-in gamma probe resulted in a bilateral detection rate of 90%. Gamma count rates of the...
drop-in and rigid gamma probe were equal (p=0.69). Because of wristed articulation of the robotic tissue grasper and possibility of autonomous probe control by the surgeon, maneuverability and control with the drop-in gamma probe were highly rated in usability questionnaires. No adverse events related to the intervention occurred.

Conclusions Sentinel lymph node detection with a drop-in gamma probe is safe and feasible in patients with early-stage cervical cancer. The drop-in gamma probe provides enhanced maneuverability and surgical autonomy compared to the rigid gamma probe.

EFFECT OF A STRUCTURED CURRICULUM FOR THE LEARNING CURVE OF ROBOT-ASSISTED SURGERY ON ONCOLOGICAL OUTCOME IN EARLY-STAGE CERVICAL CANCER
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Objectives We have previously shown a learning phase of 61 procedures when starting with robot-assisted surgery for early-stage cervical cancer. We evaluated the learning phase with a novice robotic surgeon who had access to a structured curriculum.

Methods Patients with early-stage cervical cancer who received primary robot-assisted treatment were included. In addition to the 165 patients included in our former learning curve analysis, we now included the 61 patients consecutively treated by the new surgical team, consisting of one experienced surgeon (proctor) and one novice robotic surgeon. To assess the learning phase, we extended the risk-adjusted cumulative sum (RA-CUSUM) analysis based on recurrence rate and assessed its impact on survival using Kaplan-Meier method.

Results In total 226 patients were divided over three groups: the previously reported learning phase of 61 procedures (group 1), the experienced phase of 104 procedures thereafter (group 2), and the first 61 procedures after introduction of structured curriculum training of the novice surgeon (group 3). No significant differences in baseline characteristics were observed between the groups. Based on RA-CUSUM analysis, no new learning phase was observed for group 3 (see figure 1). The 5-year recurrence free survival was 80.3% in group 1, 91.7% in group 2 and 84.7% in group 3 (p=0.10). The 5-year overall survival was 84.8% in group 1, 94.1% in group 2 and 90.9% in group 3 (p=0.12).

Conclusions Based on these single center results, introduction of a novice robotic surgeon with access to a structured curriculum did not introduce a new learning phase measured on oncological outcomes.

IS BILATERAL SENTINEL LYMPH NODE DETECTION IN EARLY-STAGE CERVICAL CANCER AFFECTED BY A LEARNING CURVE?
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Objectives Literature suggests that with increasing experience the sentinel lymph node (SLN) detection rate improves. We evaluated if a learning curve affects the SLN detection rate in early-stage cervical cancer.

Methods All patients with early-stage cervical cancer who had undergone robot-assisted SLN procedures between September 2009 and May 2021 were retrospectively included. Sentinel lymph node mapping was performed with a combination of preoperative technetium-99m nanocolloid (followed by preoperative imaging) and intraoperative blue dye, which were injected into four quadrants of the cervix. Risk-adjusted cumulative sum (RA-CUSUM) analysis was used to determine if a learning curve based on non-bilateral SLN detection (i.e. non-detection or unilateral detection) existed in this cohort.

Results In total 229 cervical cancer patients were included and a median of 20 SLN procedures per year were performed. In 98.3% of patients (225/229) at least one SLN was successfully