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.

**Objective**

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 prognostic 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 combining a 67-ERV panel and the clinical data, discriminated the two risk groups at p = 9.433 x 10^{-15}.

**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.

**Objective**

First-in-women study of a drop-in gamma probe for robot-assisted radioguided sentinel lymph node detection in early-stage cervical cancer.

**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 paravaginally uterus 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.