

participants underwent a pelvic examination by a nurse and a cervical sample was collected and tested for HPV DNA using careHPV (Qiagen, Gaithersburg, MD, USA). Women who tested positive for HPV (HPV+) underwent visual assessment for treatment (VAT) using visual inspection with acetic acid (VIA) to assess eligibility for cryotherapy. All HPV+ women were treated with cryotherapy, loop electrosurgical excision procedure (LEEP), or referred for cancer management based on results.

**Results** From April 2018 to February 2019, 427 women underwent HPV testing. The median age was 39 years. 86/426 patients (20.2%) were HIV positive. 93 patients (21.8%) were HPV+ and 97.8% (91/93) returned for VAT and treatment including cryotherapy (n=68, 74.7%), LEEP (n=10, 11.0%) and referral for cancer management (n=4, 4.4%). Treatment is pending in 9 patients for cryotherapy.

**Conclusions** Cervical cancer screening with primary HPV DNA testing, including follow-up and treatment, was found to be feasible in Maputo, Mozambique. This study is ongoing to and includes training medical providers to diagnose and treat cervical preinvasive disease and cancer.

## IGCS19-0154

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### INCIDENCE OF PELVIC INSUFFICIENCY FRACTURES AFTER EXTERNAL BEAM RADIOTHERAPY FOR GYNECOLOGICAL CANCERS USING POST-TREATMENT IMAGE FOLLOW-UP: A META-ANALYSIS OF 3929 PATIENTS

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**Objectives** To estimate the overall rate, symptomatic proportion, and most common sites of pelvic insufficiency fracture (PIF) after external beam radiotherapy for gynecological cancer based on post-treatment CT, MRI, PET or bone scintigraphy.

**Methods** A systematic search of databases (PubMed and EMBASE) was performed (CRD42019125679). The pooled summary of overall PIF (detected by post treatment image follow-up) and the proportion of symptomatic cases were calculated by using the random-effects model weighted by the inverse variance.

**Results** A total of 702 articles were initially found, resulting in 21 studies that met the inclusion criteria (total 3929 patients). Five hundred and four patients presented with PIF, translating into an overall rate of 14% (95%CI: 10–18%, based on 21

studies). Among these cases with PIF, the proportion of symptomatic patients was 61% (95%CI: 52–69%, based on 14 studies). The total number of PIF was provided by 11 studies, with a total of 610 PIF (mean 1.65/patient that develop PIF). The most common locations were: 39.7% sacro-iliac joint; 33.9% body of the sacrum; 13% pubis; 7% lumbar vertebra; 2.8% iliac bone; 2.1% acetabulum; and 1.5% femoral head/neck.

**Conclusions** The incidence of PIF after radiotherapy for gynecological cancer is high (14%) with the majority affecting the sacral bone/joint (73.6%). Post-treatment bone surveillance is recommended since almost forty percent of the patients were asymptomatic at the time of PIF diagnosis. Strategies to prevent the fracture in these patients are necessary.

## IGCS19-0051

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### SEX HORMONAL PROFILE DURING THE DEVELOPMENT FROM ENDOMETRIAL HYPERPLASTIC DISEASE TO ENDOMETRIAL CANCER

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**Objectives** To explore the endocrine profiles during the development from endometrial hyperplastic disease to endometrial cancer (EC).

**Methods** A prospective study in the Obstetrics and Gynecology Hospital of Fudan University from September 2011 to Nov 2018 was conducted. A total of 1874 cases were enrolled, including 764 cases of healthy women, 145 cases diagnosed with disordered proliferative endometrium (DPE), 250 cases with simple hyperplasia (SH), 200 cases with complex hyperplasia (CH), 259 cases with endometrial atypical hyperplasia (EAH), 256 cases of EC. Profiles of BMI and sex hormone levels (Estradiol, P, T, FSH, LH, SHBG and E2/SHBG) were analyzed and compared in different groups. Multiple linear regression analysis was done to control for the confounding factor, age.

**Results** Physiologically, text-book hormonal profiles were confirmed with our study in control group as shown below.

Estradiol elevation only took place in pre-cancerous stage. However, progesterone trend is a bit delayed, the significant difference totally vanished until the stage EEC G2, which stage is also a contraindication for conservative treatment with high potency progestins. No significant difference was found for free estrogen level (FEI) in different groups compared with the control. BMI gradually increases and peaks at EEC (G1, G2), and this group of patients was the only group with both median and mean BMI > 25kg/m<sup>2</sup>, aka, overweight.

**Conclusions** “Guider Effect Model” was hypothesized that E2 in here is as a guider in theater, once cancer cells gain carnogenic mutation(seated in cancer), the guider just left immediately, while other hormones will be interpreted in presentation d/t word limit