Introduction/Background* Urine may offer an alternative sample type for gynecologic cancer detection1, which is easily accessible and allows self-sampling at home. DNA methylation is an emerging biomarker for early cancer detection, and the feasibility of endometrial cancer detection in urine using DNA methylation analysis has recently been reported2. This study aimed to determine the performance of DNA methylation analysis in urine for endometrial cancer detection, and to make a comparison to paired cervicovaginal self-samples and cervical scrapes.

Methodology From 110 women diagnosed with endometrial cancer, paired urine samples, cervicovaginal self-samples and cervical scrapes were collected as well as samples from age-matched healthy female controls. All samples were tested for six DNA methylation markers. Differences in DNA methylation levels between patients and controls were compared using the non-parametric Mann-Whitney U-test, and the performance was quantified by the area under the receiver operating characteristic (ROC) curve (AUCs) and logistic regression. Correlation of DNA methylation markers within paired sample types was determined using the Spearman correlation coefficients.

Result(s)* In urine, self-samples and cervical scrapes, all six DNA methylation markers showed increased methylation levels in patients as compared to controls. Analyses amongst the paired sample types showed a good correlation between the test results of the DNA methylation markers.

Conclusion* This study demonstrates that testing for DNA methylation markers in urine may provide an easy and accurate alternative method for the detection of endometrial cancer. Potential applications of this diagnostic approach include the screening of asymptomatic women, triaging women with (postmenopausal) bleeding symptoms, and monitoring women with increased endometrial cancer risk.

| 410 | LONG-TERM OUTCOME IN ENDOMETRIAL CANCER PATIENTS AFTER ROBOT-ASSISTED LAPAROSCOPIC SURGERY WITH SENTINEL LYMPH NODE MAPPING |

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Introduction/Background* The aim was to provide long-term outcome data in endometrial cancer patients undergoing robot-assisted laparoscopic surgery and sentinel lymph node (SLN) mapping.

Methodology Retrospective cohort study of 108 patients with primary endometrial cancer who underwent robot-assisted laparoscopic surgery and sentinel lymph node mapping using the *Memorial Sloan Kettering* Cancer Center algorithm with near-infrared fluorescence detection of indocyanine green for endometrial cancer from November 20th 2012 to January 1st 2016 at St. Olavs hospital in Norway. The primary endpoint was recurrence-free survival. Secondary endpoints were overall survival and treatment complications.

Result(s)* After a median follow up of 75 months (range 61-98), five (4.6%) patients had recurred and three patients had died from the disease. The 5-year recurrence-free survival was 95.4% (95% CI, 91.5 – 99.3). The 5-year disease specific survival was 97.2% (95% CI, 94.1 – 100.3). Four of the patients with recurrent disease had lymph node metastasis at diagnosis. The 5-year overall survival was 92.6% (95% CI, 87.7 – 97.5). Peripheral neuropathy after chemotherapy was the most common complication (9.3%), followed by lower limb edema (2%) and postoperative hernia (2%).

Conclusion* The present study demonstrated excellent oncologic outcome and few treatment complications in patients treated according to the SLN algorithm more than five years after diagnosis.

| 412 | BIOENDOCAR: OMICS APPROACHES FOR DIAGNOSIS AND PROGNOSIS OF ENDOMETRIAL CANCER |

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Introduction/Background* Endometrial cancer is the second most common carcinoma of the female genital tract globally, and its incidence is still increasing. Optimal treatment of EC depends on early diagnostics and pre-operative stratification to appropriately select the extent of surgery and to plan further therapeutic approach. Current diagnosis and treatment of EC patients is guided by histopathological and surgical findings since there are no accurate non-invasive diagnostic or prognostic methods available. The lack of non-invasive diagnostic and prognostic biomarkers of EC is addressed in the current clinical study titled '**Bio**markers for Diagnosis and Prognosis of **Endo**metrial **Car**cinoma' (NCT03553589).

Methodology Patient recruitment takes place at six medical centers (University Medical Centre Ljubljana, Slovenia; University Medical Centre Maribor, Slovenia; Maastricht University Medical Centre, The Netherlands; Lublin Medical University, Poland; University Hospital Brno, Czech Republic, University of Genoa, Italy).

Plasma samples from women with diagnosed EC and controls will be examined using non-targeted and targeted metabolomics and targeted proteomics approaches. Combined blood metabolome (>850 metabolites), proteome (>900 proteins), clinical and epidemiological data will be analyzed in order to construct diagnostic/prognostic algorithms for early diagnosis of EC and to identify patients with low/high risk for cancer progression and recurrence.

BioEndoCar consortium has defined inclusion/exclusion criteria and a strict standard operating procedure for sample collection, processing and storage that is followed in all medical centers.

Result(s)* Since the beginning of the project we recruited more than 440 patients. Discovery proteomics and discovery metabolomics phase have been concluded. Targeted proteomics and targeted metabolomics analysis are currently in progress and we are awaiting the results.

Conclusion* Within the project we expect to find different metabolic and protein profiles in patients with early stages of EC as compared to controls and in patients with poor prognosis and high risk of disease progression and recurrence as compared to those with favorable prognosis.

Great effort was put into informing the lay and expert public about the importance of the translational studies in EC. We have established an official website (https://bioendocar.eu/), Twitter profile and Facebook page (https://www.facebook.com/bioendocar) where we post all news concerning the project.

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Nothing to disclose.

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416 VALIDATION OF THE PORTEC NOMOGRAMS IN PATIENTS WITH EARLY ENDOMETRIAL CANCER – A RETROSPECTIVE ANALYSIS

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Introduction/Background* Treatment for endometrial cancer consists of surgery followed by appropriate risk adapted adjuvant treatment. Pooled analysis from the PORTEC-1 and -2 trials was used in development of nomograms that incorporated mode of adjuvant treatment in predicting risk of recurrence. In the present study, we have validated performance of the PORTEC nomograms in patients with early endometrial cancer treated at a single tertiary cancer centre in India.

Methodology A retrospective analysis of patients of endometrial cancer treated with Observation (Obs), Vaginal Brachytherapy (VBT), or External beam Radiotherapy (EBRT) as adjuvant post-surgery was carried out. All patients were with endometrioid histology and had Stage I (FIGO 2009) disease. Patients who received chemotherapy were excluded. Three-hundred and eighteen patients treated between 2009-18 were included. Nomogram validation was performed by calculation of Concordance Index using Harrell's estimator.

Result(s)* Median age at diagnosis was 57 years (IQR 52-63 yrs). 201 (63.2%) patients had Stage IA disease, while 117 (36.8%) patients had Stage IB disease at presentation. According to the ESMO-ESGO-ESTRO 2016 risk stratification 168 (52.8%) patients were low risk, 76 (23.9%) patients were intermediate, 42 (13.2%) were high-intermediate and 32 (10.1%) patients were high risk. Lymphovascular space invasion was seen in 22 (7%) patients. The adjuvant therapy offered was Observation in 136 (42.8%) patients, VBT in 109 (34.2%) patients and EBRT in 73 (23%) patients. With a median follow-up of 40 months the loco-regional control,

distant-relapse free survival, disease-free and over-all survival at 3-yrs were 97%, 97.3%, 94.8% and 97.8% respectively. Concordance index for Overall Survival (OS) was 0.72 (95% C.I: 0.45-0.99), for Disease-free survival (DFS) was 0.74 (95% C.I.0.66-0.83) and for Distant Relapse was 0.65 (95% C.I. 0.54-0.77). Concordance index for loco-regional recurrence could not be reliably derived.

Conclusion* The PORTEC nomograms for DFS and OS were validated in patients with stage I endometrial cancer in an Indian cohort and could be used for shared decision making regarding adjuvant treatment in patients with early endometrial cancer.

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419 HYSTEROSCOPIC DIAGNOSIS OF ENDOMETRIAL CANCER IN PREMENOPAUSAL WOMEN: A DESCRIPTIVE RETROSPECTIVE STUDY

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Introduction/Background* The aim of the present study was to determine the epidemiological, clinical and diagnostic features of endometrial cancers (EC) in premenopausal women diagnosed with hysteroscope.

Methodology We conducted a descriptive retrospective study in a university hospital. We involved 2367 patients who underwent office-based hysteroscopy from 1st January 2017 to 31st December 2019. Our research identified 47 patients with histological diagnosis of EC. Of these, 6 were premenopausal women.

Result(s)* Out of the 2367 office-based hysteroscopies performed, 47 cases (1,98%) of EC diagnosed by hysteroscopic exam and endometrial sampling. 6 records (12,76%) were premenopausal. These patients were referred to our gynaecological service complaining about abnormal uterine bleeding. 5 patients (83,3%), with heavy menstrual bleeding (HMB) and one case of inter-menstrual bleeding (IMB). Premenopausal patients aged 34-52 years (mean age 42,83 years).

Risk factors of endometrial cancer to highlight in our premenopausal cohort were the following. Obesity was the strongest risk factor; 4 patients (66,6%) showed a body mass index (BMI) $\geq 30 kg/m^2$. The average BMI was $35 kg/m^2$. On the other hand, two patients had normal BMI. Additionally, we found two nulliparous women (33,3%), and two patients (33,3%) carrying Mirena IUD. We did not get any interest family history.

At the ultrasound examination, endometrial pathology was identified in 5 patients (83,3%). The most frequent ultrasonographic pathological finding was endometrial polyp in 4 cases (66,6%), two of which showed myoma too. Also, one result of submucosal myoma without other lesion.

If we focus on hysteroscopic lesions, atypical polyps were found in all cases. The final histological examination showed endometrioid endometrial adenocarcinoma. There were 3 results (50%) in situ and the other three were stage IA G1.

Conclusion* This review supports that obesity is a significant modifiable risk factor for EC during premenopause. The overall rate of BMI $\geq 30 kg/m^2$ in this study was 66%.