The aim of this study was to elaborate a new algorithm, based on serum CA125, HE4 and age, to assess the risk of malignancy in premenopausal patients with pelvic mass

Methodology The training dataset included 284 premenopausal patients operated because of presence of pelvic mass, out of which 35 and 249 had malignant and benign disease respectively. A novel algorithm, based on serum HE4, CA125 and patient's age as variables, has been developed by using the scenario of discrimination "benign diseases versus all stages of epithelial ovarian cancer (EOC) together with borderline ovarian tumors (BOT) FIGO stage 1c2–3c". This algorithm was named Risk of Ovarian Cancer Kazan Index (ROCK-I). The validating dataset consisted of consecutively operated premenopausal patients with pelvic mass out of which there were 187 cases of benign diseases, 20 EOC and 4 BOT FIGO stage 1c2–3c. An analysis with inclusion of BOT stage 1a-1c1 and non-EOC will be reported separately.

Result(s)* In the validating dataset the specificities of ROCK-I and ROMA were 92% and 85% respectively ($p < 0.05$). When the above-mentioned scenario of discrimination was used the sensitivities of ROCK-I and ROMA were 95.8% and 91.7% respectively, accuracies 92.4 and 85.8%, positive predictive values 60.5% and 44% respectively. Areas under receiver-operating-characteristic curves (ROC-AUC) of ROCK-I, ROMA and CA125 were 0.984, 0.94 and 0.901 respectively. The difference in ROC-AUC between ROCK-I and CA125 was statistically significant ($p = 0.03$). A more detailed comparison of the performance of algorithms is shown in table 1 and figure 1.

Abstract 1128 Table 1 Comparison of the performance of ROCK-I and ROMA

	Sensitivity (95% CI), %	Specificity (95% CI), %	PPV (95% CI), %	NPV (95% CI), %	Accuracy (95% CI), %	LR+ (95% CI)	DOR (95% CI)	ROC-AUC (95% CI)
Training dataset								
ROCK-I	89.6 (75.3–96.0)	93.7* (90–96.1)	66.7* (52.4–78.5)	98.5 (96.0–99.4)	93.3* (89.7–95.6)	14.3* (8.8–23.2)	128.1 (38.6–424.7)	0.97 (0.948–0.992)
ROMA	83.9 (68.5–92.6)	85.7* (80.8–89.5)	45.2* (33.7–57.2)	97.4 (94.4–98.8)	85.5* (80.9–89.1)	5.9* (4.2–8.3)	31.1 (11.8–82.0)	0.941 (0.9–0.982)
Validating dataset								
ROCK-I	95.8 (78.9–99.9)	92.0* (88.1–95.4)	60.5 (48.4–71.5)	99.4 (96.2–99.9)	92.4 (88.0–95.6)	12.0 (7.3–19.6)	263.7 (33.3–2091.1)	0.984 (0.969–0.998)
ROMA	91.7 (73.0–99.0)	85.0* (79.1–88.8)	44.0 (35.4–53.0)	98.8 (95.5–99.7)	83.8 (80.3–90.2)	6.1 (4.3–8.8)	62.5 (13.9–280.6)	0.94 (0.882–0.996)

ROCK-I – proposed Risk of Ovarian Cancer Kazan Index. ROMA – Risk of Ovarian Malignancy Algorithm. PPV – positive predictive value. NPV – negative predictive value. LR+ – positive likelihood ratio. DOR – diagnostic odds ratio.
* $p < 0.05$

Abstract 1128 Figure 1 The ROC-curves of ROCK-I, ROMA and CA125 in the validating dataset

Conclusion* The proposed ROCK-I has demonstrated greater diagnostic performance than both ROMA and CA125 in the analyzed dataset. If an independent validation will show similar or even slightly lower difference between ROCK-I and ROMA it may provide a new basis of routine-use of HE4 in premenopausal patients with pelvic mass.

1191 UTERINE METASTASIS OF BREAST CANCER

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Introduction/Background* Uterine metastasis from extrvaginal cancers is a rare event. A few cases of lobular invasive carcinoma with endometrial metastasis was reported in the literature.

Result(s)* A 40 year old woman was treated in 2015 for a localised synchronous bilateral invasive ductal breast carcinoma. Human epidermal growth factor receptor (HER2) was amplified with positive endocrine receptor. She underwent in 2015 a neoadjuvant sequential chemotherapy with trastuzumab, followed by bilateral mastectomy, adjuvant trastuzumab and hormone therapy (Tamoxifene with chemical ovarian suppression). In 2020, the CT scan showed liver, bone and peritoneal metastasis associated with a retro uterine mass suggesting a cervical cancer as a second cancer.

A biopsy was performed and the morphological feature with immunohistochemistry concluded to a metastasis of ductal breast carcinoma: Gata 3 protein(+), ER +, PR+, HER2 overexpressed and Wt1 negative.

Conclusion* Although rare, intrauterine breast cancer metastasis can occur even with a ductal breast cancer and physicians must go for a biopsy with immunohistochemistry.

Endometrial cancer

212 MULTIPLEX QPCR HOTSPOT TESTING OF PATHOGENIC POLE MUTATIONS: A RAPID, SIMPLE AND RELIABLE APPROACH FOR POLE ASSESSMENT IN ENDOMETRIAL CANCER

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Introduction/Background* Detection of pathogenic somatic variants in the exonuclease domain (EDM) of the *POLE*-gene is of prognostic importance because of the excellent clinical outcomes of *POLE*-mutated endometrial cancers (EC). It is hypothesised that patients with *POLE*-mutated EC benefit of treatment de-escalation. Since 8–10% of EC carry a pathogenic *POLE*-mutation, it is of strong clinical importance to accurately determine the presence of these mutations. In current practice *POLE*-status can only be determined by DNA-sequencing methods, e.g. Sanger or Next-Generation-Sequencing (NGS). These techniques require a molecular biologist for