(tamoxifen) and radiation therapy.Oophorectomies were performed for the treatment of breast cancer or for benignconditions. Dates of death were obtained from the Polish Vital StatisticsRegistry. Causes of death were determined by medical record review. Predictorsof survival were determined using the Cox proportional hazards model.

Results In all, 839 patients with a CHEK2 mutation were matched to 839patients without a mutation. The mean follow-up was 12.0 years. The 15-yearsurvival for CHEK2 carriers was 76.6% and the 15-year survival for non-carriercontrol patients was 78.8% (adjusted HR = 1.06; 95% CI: 0.84–1.34; P = 0.61).Among CHEK2 carriers, the 15-year survival for women who had anoophorectomy was 86.3% and for women who did not have an oophorectomywas 72.1% (adjusted HR = 0.59; 95% CI: 0.38–0.90; P = 0.02). Among controls,the 15-year survival for patients who had an oophorectomy was 84.5% and forwomen who did not have an oophorectomy was 77.6% (adjusted HR = 1.03;95% CI: 0.66–1.61; P = 0.90).

Conclusion Among women with breast cancer and a CHEK2 mutation,oophorectomy is associated with a reduced risk of death from breast cancer.

2022-RA-1170-ESGO CAN SERUM LEVEL OF WT1 GENE REPLACE GENE EXPRESSION IN THE DIAGNOSIS OF OVARIAN CANCER?

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Introduction/Background WT1 gene and its encoded protein are highly expressed in hematological malignancies and solid tumors such as cancer of breast, lung, pancreas, ovary and prostate (1). WT1-expression is examined by IHC or qPCR, while WT1- ELISA kit is also available. We compared serum level of WT1 (sWT1) with its expression in ovarian cancer (OC) patients.

Methodology We studied 30 OC-cases 11 benign ovarian cysts (control). Their sWT1 was measured from samples collected prior to surgery or chemotherapy. ROC curve analysis was done to have a cut-off to differentiate benign from malignant lesions. It was 3.35ng/mL at 64% sensitivity and 63% specificity with AUC 0.61. Intra-operatively, tumor tissues of 22 OC-cases were collected and examined for RNA expression, which are being compared with sWT1 in this study.

Results In the two techniques, out of 22 cases, high & low values were seen in 15(68.1%) & 7 (31.8%) cases respectively. But the cases were different (table 1). qPCR: High wt1-expression was seen in 15, out of which 4 (26.6%) showed low serum level, whereas 11 (73.3%) showed high sWT1. Out of 7 low expression cases, low and high serum levels were seen in 3 & 4 cases (table 1). sWT1: It was high in 15, out of which 11 **(73.3%)** showed high expression & 4 (26.6%) showed low expression. Out of 7 low sWT1, 4 (57.1%) showed high expression and 3 (42.8%) showed low expressions (table 1).

Abstract 2022-RA-1170-ESGO Table 1 Comparison of results of qPCR & serum level

QPCR (22 cases)		Swt1 (22 cases)			
		Serum <3.3	Serum <3.3	Serum >3.3	Serum >3.3
Up- regulation (high)	15 (68.1%)	4/15 (26.6%)	4/7 (57.1%)	11/15 (73.3%)	11/15 (73.3%)
Down- regulation (low)	7 (31.8%)	3/7 (42.8%)	3/7 (42.8%)	4/7 (57.1%)	4/15 (26.6%)
	22	7	7	15	15

Conclusion We couldn't find any study, in which WT1 gene expression was compared with that of serum level. This is first pilot study, which shows that there is no correlation between gene expressions with that of their serum levels, although number cases may be required for conclusive result.

2022-RA-1316-ESGO DO OTHER HIGH RISK HPV TYPES POSITIVE CASES DESERVE COLPOSCOPY?

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Introduction/Background The cervical cancer is among the preventable causes of death and is curable in early stage when it is adequately treated. HPV test has high positive predictive values however together with colposcopic examination. American Society for Colposcopy and Cervical Pathology recommends colposcopic evaluation to HPV type 16/18 positive and cytology negative women. This study was designed to find answer of this question that 'Is there a need for colposcopy in ohter high risk HPV positive and cytology negative women?'

Methodology Patients with positive HPV screening tests were included in the study. Colposcopic examination was performed on 247 patients. Colposcopic evaluation was performed by 1 professor and 3 gynaecologic oncology assistants. For statistical analysis, Chi-square test was used for categorical variable, and Mann-Whitney U test was used for quantitative and further analysis. $p<0.05$; was considered statistically significant.

Results The mean age of 247 patients participating in the study was 41.5 years (19–72 years). Of the patients with normal cytology, 19.3% (n = 28) were HPV16; 6.2% (n = 9) were HPV18; 54.5% (n = 79) were high-risk HPV, 5.5% (n = 8) were found to be HPV16 or 18 plus high risk HPV. The colposcopic biopsy results of patients with normal smear cytology and high-risk HPV positive were compared with patients have normal cytology result and HPV16 positive or HPV 18 positive and have normal cytology with HPV 16 or 18 plus high-risk HPV positive. There were no significant differences between these groups ($p< 0.05$).

Conclusion If the HPV type is not HPV 16 or 18 and the cytology test is normal, co-test is recommended after 1 year. In this study, similar colposcopic biopsy results were found in other high-risk HPV positive cases. When colposcopy is applied widely, more preinvasive disease will be detected in HPV positive cases.

2022-RA-1352-ESGO DOSE RECEIVED BY AXILLARY LYMPH NODES IN BREAST CANCER ADJUVANT RADIOTHERAPY

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Introduction/Background The axillary region is considered problematic; a risked organ (OAR), a predictive dosimetric parameter of long-term lymphedema, and a residual-disease site in case of breast-cancer radiotherapy.Our study endeavors to determine the dose received by the axillary area in adjuvant radiotherapy for breast-cancer and to assess its clinical impact on long-term lymphedema.

Methodology A retrospective dosimetric study, executed in the radiotherapy department of Farhat Hached Hospital, Sousse, included 50 female patients treated with three-dimensional adjuvant radiotherapy for breast-cancer, between 2018 and 2019. The axillary-area was delineated according to the European-Organization for Research and Treatment of Cancer (EORTC) guidelines.

Results The average age was 52[30–80]. 64% of our patients had a mastectomy with ipsilateral axillary lymph-node dissection(IALND), while 36% had a lumpectomy with a IALND. 35 patients(70%) received regional radiotherapy and 15 patients(30%) had only local radiotherapy with 2 tangential fields. All the patients were treated with normofractionated radiotherapy dose of 50Gy. Patients with conservative surgical treatment or T4 classified tumors received an additional boost; 66Gy (21patients) and 70Gy for tumoral-surgical limits (1patient). The mean axillary volume was 77.9 cm3[9.4–181]. The mean-dose, the maximal-dose and the minimal-dose received by the axillary region were respectively 28.49Gy [3.19–53.7Gy], 54.18Gy[33.96–72.63Gy] and 9.4Gy[0.32–10.74Gy].Late complications of lymphedema and radio induced dermatitis (GI and II according to the CTCAEV5.0scale) were observed respectively in 6(12%) and 17(34%) patients.

Conclusion To conclude, the axillary-area received unintentional and significant doses during breast-irradiation; by the tangential fields or the additional supraclavicular field. Some authors consider that the axillary-lateral thoracic vessel junction (ALTJ); that's above level I Berg, as an OAR for long-term lymphedema and its dose can be minimized especially for clinically node-negative patients. Further validation of lymphedema OAR dosimetric parameters by prospective studies is justified.

2022-RA-1354-ESGO A NEW ALGORITHM MAY HIGHLIGHT BENEFITS FROM ADDING HE4 TO CA125 IN THE PREOPERATIVE ASSESSMENT OF PREMENOPAUSAL PATIENTS WITH PELVIC MASS

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Introduction/Background Recently, ESGO/ISUOG/IOTA/ESGE Consensus Statement on pre-operative diagnosis of ovarian tumors implied that neither Human epididymis protein 4 (HE4) nor Risk of Ovarian Malignancy Algorithm (ROMA) improve the discrimination between benign and malignant masses compared with CA 125 alone. This statement may be reassessed if a novel algorithm, more powerful than ROMA, will be developed. Thereby the aim of this study was to elaborate a new predictive algorithm, based on serum CA125&HE4, which performs better than ROMA

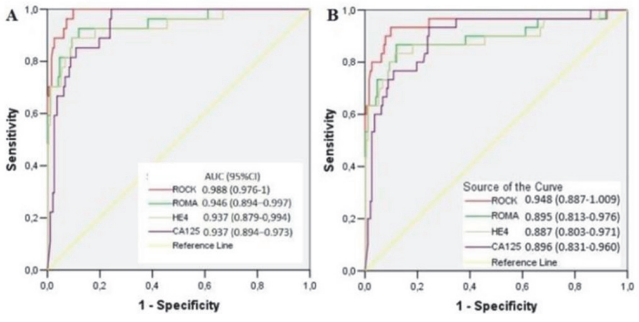
Abstract 2022-RA-1354-ESGO Table 1 Comparison of the performance of ROCK-I and ROMA

	Sen.,% (95% CI)	Sp.,% (95% CI)	*Youden-J*,% (95% CI)	PPV,% (95% CI) %	NPV,% (95% CI)	Acc.,% (95% CI)	LR+,% (95% CI)	DOR (95% CI)	ROC-AUC (95% CI)
Training dataset (using the scenario of discrimination "**benign**" vs "**all stages of EOC and stages Ic2-III of BOT**")§									
ROCK-I	91.0 (76.9 – 98.2)	92.7* (88.8 – 95.7)	83.2 (68.6 – 89.8)	63.4* (53.0 – 73.7)	98.6 (96.3 – 99.6)	92.4* (88.9 – 95.4)	12.3* (8.0 – 20.0)	121.1 (35.4 – 414.1)	0.97 (0.948 – 0.992)
ROMA	83.9 (68.5 – 92.6)	85.7* (80.8 – 89.5)	69.6 (53.4 – 79.1)	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 (using the scenario of discrimination "**benign** vs EOC")									
ROCK-I	100.0 (85.8 – 100.0)	92.2* (87.5 – 95.6)	92.2 (77.7 – 95.2)	61.5 (49.6 – 72.2)	100.0 (97.1 – 100)	93.1* (88.9 – 96.1)	12.9 (7.9 – 20.9)	-	0.99 (0.98 -1)
ROMA	95.8 (78.9 – 99.9)	84.5* (78.6 – 89.3)	80.3 (63.2 – 85.9)	43.4 (35.3 – 51.8)	99.4 (96 – 99.9)	85.7* (80.3 – 90.1)	6.2 (4.4 – 8.7)	125.0 (16.3 – 960.7)	0.965 (0.931 – 0.999)
Validating dataset (using the scenario of discrimination "**benign**" vs "**all stages of EOC and stages Ic2-III of BOT**")									
ROCK-I	96.3 (81.0 – 99.9)	92.2* (87.5 – 95.6)	88.5 (73.2 – 92.8)	63.4 (51.5 – 73.9)	99.4 (96.3 – 99.9)	92.7* (88.5 – 95.8)	12.4 (7.6 – 20.3)	308.5 (39.1 – 2434.4)	0.988 (0.976 – 1)
ROMA	92.6 (75.7 – 99.1)	84.5* (78.6 – 89.3)	77.0 (60.1 – 84.0)	45.5 (37.1 – 54.1)	98.8 (95.6 – 99.7)	85.5* (80.1 – 89.8)	6.0 (4.2 – 8.4)	67.9 (15.3 – 301.9)	0.946 (0.894 – 0.997)
Validating dataset (using the scenario of discrimination "**benign**" vs "**all malignant diseases and stages Ic2-III of BOT**")									
ROCK-I	92.9 (76.5 – 99.1)	92.2* (87.5 – 95.6)	85.1 (68.9 – 91.1)	63.4 (51.3 – 74.0)	98.9 (95.9 – 99.7)	92.3* (88.0 – 95.5)	12.0 (7.3 – 19.6)	154.3 (33.3 – 713.7)	0.948 (0.887 – 1.009)
ROMA	89.3 (71.8 – 97.7)	84.5* (78.6 – 89.3)	73.7 (56.3 – 82.0)	45.5 (36.9 – 54.3)	98.2 (94.9 – 99.4)	85.1* (80.0 – 89.5)	5.7 (4.0 – 8.2)	45.3 (12.9 – 159.5)	0.895 (0.813 – 0.976)
Validating dataset (using the scenario of discrimination "**benign**" vs "**all malignant diseases and BOT**")									
ROCK-I	82.4 (65.5 – 93.2)	92.2* (87.5 – 95.6)	74.6 (58.0 – 84.3)	65.1 (52.8 – 75.7)	96.7 (93.5 – 98.4)	90.8 (86.2 – 94.2)	10.6 (6.4 – 17.7)	55.4 (19.8 – 154.7)	0.894 (0.815 – 0.974)
ROMA	79.4 (62.1 – 91.3)	84.5* (78.6 – 89.3)	63.9 (46.7 – 75.0)	47.4 (38.3 – 56.6)	95.9 (92.3 – 97.8)	83.7* (78.2 – 88.3)	5.1 (3.5 – 7.4)	21.0 (8.4 – 52.5)	0.847 (0.757 – 0.938)

ROCK-I – ROCK-index (Risk of Ovarian Cancer Kazan Index); ROMA – Risk of Ovarian Malignancy Algorithm; CI – confidence interval; Sen. – sensitivity; Sp. – specificity; Youden-I – Youden Index; PPV – positive predictive value; NPV – negative predictive value; Acc. – accuracy; LR+ - positive likelihood ratio; DOR – diagnostic odds ratio; ROC-AUC – area under receiver operating characteristic curve; EOC– epithelial ovarian cancer; BOT – borderline ovarian tumors

§ ROCK-I was trained using the scenario of discrimination "**benign**" vs "**all stages of EOC and stages Ic2-III of BOT**". Non-EOC, ovarian metastases of non-ovarian cancers and BOT stage Ia-Ic1 were not included in the training dataset.

*p<0.05



Abstract 2022-RA-1354-ESGO Figure 1 ROC-curves for ROCK-index, ROMA, CA125 and HE4 in the validating dataset. A) 'bening' *vs* 'all stages of EOC & stages Ic2-III of BOT'; B) 'bening' *vs* 'all malignant diseases & stages Ic2-III of BOT'. EOC – epithelial ovarian cancer; BOT – borderline ovarian tumors