Abstracts

2022-RA-637-ESGO

FIVE-YEAR UNIVERSAL TUMOR SCREENING OF BRCA1/2 IN EPITHELIAL OVARIAN CARCINOMA: IS HISTOTYPE-DIRECTED HR-DEFICIENCY TESTING JUSTIFIED?

1Claire JH Kramer, 1Lieke Lanjouw, 2Alja ter Elst, 3Nienke Solleveld-Westerink, 4Hans M Hazebag, 5Marjolein J Kagie, 6Elis JM Ahsmann, 7Anneemieke H van der Hout, 8Nienke van der Stoep, 9Cor D de Kroon, 10Katja N Gaarenstroom, 11Tom van Wezel, 12Lieke PV Berger, 13Vincent THBM Smit, 14Tuukje H de Bock, 15Christi J van Asperen, 16Marijn JE Mourits, 17Maaike PG Vreeswijk, 18Joost Bart, 19Tjalling Bosse. 2Leiden University Medical Center, Leiden, Netherlands; 1University Medical Center Groningen, Groningen, Netherlands; 3University Medical Center Utrecht, Utrecht, Netherlands; 4Haaglanden Medical Center, The Hague, Netherlands; 5Groene Hart Hospital, Gouda, Netherlands

Introduction/Background A popular dogma is that in epithelial ovarian carcinomas (EOCs) mutations in BRCA1/2 and other homologous recombination (HR)-genes are exclusive to high-grade serous ovarian carcinomas (HGSOC). Nevertheless, the European guidelines recommend germline or tumor screening, regardless of histotype. Here, we report on the results of five-year prospective, universal ‘tumor-first’ screening of BRCA1/2 and HR-genes in EOC and assess the relationship between identified mutations and histotypes.

Methodology EOCs were prospectively sequenced between September 2017 and December 2021 in two university medical centers in The Netherlands. The gene-panel included BRCA1/2 and for a large subset of cases the panel was expanded with EOC-susceptibility HR-genes BRIP1, PALB2, RAD51C and RAD51D. All mutations (class 4 and 5 variants) were reported. Prior to sequencing, all EOC underwent a central pathology revision, may be justified.

Results The universal ‘tumor-first’ screening strategy was executed in the two centers on a total of 831 EOCs (table 1). In total, 73% were HGSOCs and 27% were EOC-clinical types. The overall yield for BRCA1/2 mutations in EOC was 13%, and the vast majority of mutations (94.5%) were identified in HGSOCs (yield of 17%; table 1). Intriguingly, 6/221 (2.7%) non-HGSOCs, i.e., n=3 high-grade endometroid, n=1 low-grade endometroid and n=2 low-grade serous OC, harboured a BRCA2 mutation. No BRCA1/2 or HR-gene mutations were identified in clear cell and mucinous carcinomas. The results of extensive HRD testing of these six outliers will be presented at the meeting, including loss of heterozygosity, functional RAD51 assay and copy-number signatures.

Conclusion This large ‘real-world’ cohort of centrally revised and prospectively sequenced EOCs confirmed that BRCA1/2 mutations are almost exclusively identified in HGSOC. Extensive HRD testing will inform us about the clinical relevance of the identified BRCA1/2 and HR-gene mutations beyond HGSOCs and whether histotype-directed HRD-screening, after central pathology revision, may be justified.

2022-RA-643-ESGO

MUCINOUS OVARIAN CARCINOMAS – A SINGLE INSTITUTION ANALYSIS OF CLINICOPATHOLOGIC PROFILE AND SURVIVAL OUTCOMES

Deepak Bose, P Rema. Gynecological Oncology, Regional Cancer Centre, Thiruvananthapuram, Trivandrum, Kerala, India

Introduction/Background Mucinous ovarian carcinoma (MOC) is a rare subset of epithelial ovarian cancers. Prognosis of MOC is better in early stages, but worse in advanced stages owing to inadequate chemo-response. Literature is heavily dependent on small-sampled retrospective studies due to the rarity of this tumour. Hence, we embarked on this analysis of outcomes of MOC in an Indian tertiary-care cancer centre.

The main objectives were to correlate clinicopathological factors associated with MOC; to characterise primary vs metastatic MOC; to assess role of appendicectomy and fertility-sparing surgery, and to analyse survival outcomes (progression-free survival – PFS and overall survival – OS).

Methodology Retrospective study of women diagnosed with MOC and treated from our tertiary-care cancer centre over a 10-year period; from January 2008 to December 2017. Patient records were reviewed, details assessed and data regarding recurrences and survival were analysed.

Abstract 2022-RA-637-ESGO Table 1 Yield of BRCA1/2 and Homologous Recombination-Gene Mutations in Epithelial Ovarian Carcinoma

<table>
<thead>
<tr>
<th>BRCA1/2 mutations</th>
<th>BRIP1, PALB2, RAD51C, RAD51D mutations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center-1 and -2</td>
<td>Center-1</td>
</tr>
<tr>
<td>All EOC</td>
<td>13% (110/831)</td>
</tr>
<tr>
<td>HGSOC *</td>
<td>17% (104/610)</td>
</tr>
<tr>
<td>Other</td>
<td>2.7% (6/221)</td>
</tr>
<tr>
<td>EnOC – G3</td>
<td>16% (3/19)</td>
</tr>
<tr>
<td>EnOC – G1/2</td>
<td>2.9% (1/35)</td>
</tr>
<tr>
<td>LGSOC</td>
<td>3.4% (2/59)</td>
</tr>
<tr>
<td>CCC</td>
<td>0% (0/54)</td>
</tr>
<tr>
<td>MC</td>
<td>0% (0/31)</td>
</tr>
<tr>
<td>Carcinosarcoma</td>
<td>0% (0/12)</td>
</tr>
<tr>
<td>Other ¶</td>
<td>0% (0/11)</td>
</tr>
</tbody>
</table>

* 94.5% of all BRCA1/2 mutations were detected in HGSOC.
¶ Including malignant Brenner tumor, mixed-type histology, mesonephric-like adenocarcinoma, undifferentiated carcinoma and small cell carcinoma.

Abstract 2022-RA-643-ESGO

Abstract 2022-RA-643-ESGO Table 1 Yield of BRCA1/2 and Homologous Recombination-Gene Mutations in Epithelial Ovarian Carcinoma
**Results** 109 patients were included in the study. Primary staging was done in 62%. 88% presented at stage I. 75% had primary ovarian mucinous histology, while 25% had metastatic histology. Metastatic MOC had absent borderline areas, and advanced stage. 32% underwent appendicectomy. 2 cases had positive appendices and both were grossly abnormal. 23 patients recurred – 12 intraperitoneal, 8 extra-abdominal. Median follow-up of 49 months and 3-year PFS and OS were 70.2% and 77.9%. Early-stage MOC – median OS was not reached. Metastatic carcinomas had significantly poorer OS compared to advanced primary (10 vs 41 months p<0.001). Fertility-sparing surgery with only ovarian cystectomy significantly reduced OS compared to adnexectomy.

**Conclusion** Of 109 MOCs, most had primary histology and early stage. Metastatic carcinoma had absent borderline areas, smaller size, bilaterality and advanced stage. Routine appendicectomy may not have a prognostic role. Factors affecting OS were the stage of disease and extent of surgery; not chemotherapy regime. Ovarian cystectomy alone resulted in poorer survival.

---

2022-RA-645-ESGO

**SURVIVAL IMPACT OF HISTOLOGICAL RESPONSE TO NEOADJUVANT CHEMOTHERAPY ACCORDING TO NUMBER OF CYCLES IN PATIENTS WITH ADVANCED OVARIAN CANCER**

Sarah Bétrian, Martina Aída Angeles, Antonio Gil-Moreno, Bastien Cabarrou, Marion Deslandres, Guenael Ferron, Eléna Mery, Anne Foquet, Frédéric Guyon, Asunción Pérez-Benaívente, Emanuela Spagnolo, Agnieszka Rychlík, Laurence Gladieff, Alicia Hernández, Alejandra Martínez, Institut Universitaire du Cancer – Institut Claudius Regaud, Toulouse, France; 2Hospital Universitari Vall d’Hebron, Barcelona, Spain; 3Institut Bergonie, Bordeaux, France; 4Hospital Universitari Vall d’Hebron, Universitat Autònoma de Barcelona, Barcelona, Spain; 5La Paz University Hospital – IDiPAZ, Madrid, Spain; 6Maria Skłodowska-Curie National Research Institute of Oncology, Warsaw, Poland

**Introduction/Background** We sought to evaluate the impact of chemotherapy response score according to the number of cycles of neoadjuvant chemotherapy, on disease-free survival and overall survival, in patients with advanced epithelial ovarian cancer ineligible for primary debulking surgery.

**Methodology** Our multicenter retrospective study included patients with FIGO stage IIIC-IV epithelial ovarian cancer who underwent 3–4 or 6 cycles of a platinum and taxane-based neoadjuvant chemotherapy, followed by complete cytoreduction surgery (CC-0) or cytoreduction to minimal residual disease (CC-1), between January 2008 and December 2015, in four institutions. Disease-free survival and overall survival were assessed according to the histological response to chemotherapy defined by the validated chemotherapy response score.

**Results** A total of 365 patients were included: 219 (60.0%) received 3–4 cycles of neoadjuvant chemotherapy and 146 (40.0%) had 6 cycles of neoadjuvant chemotherapy before cytoreductive surgery. There were no significant differences in early relapses, disease-free survival and overall survival according to the number of neoadjuvant chemotherapy cycles. However, regardless of the number of neoadjuvant chemotherapy, persistent extensive histological disease (chemotherapy response score 1–2) was significantly associated with a higher peritoneal cancer index, minimal residual disease (CC-1) and early relapses. Median disease-free survival in patients with complete or near-complete response (score 3) was 28.3 months (95%CI [21.6–36.8]), whereas it was 16.3 months in patients with chemotherapy response score 1–2 (95%CI [14.7–18.0]), (p<0.001).

**Conclusion** In our cohort, the number of neoadjuvant chemotherapy cycles was not associated with disease-free survival or overall survival. Chemotherapy response score-3 improved oncological outcome regardless of the number of neoadjuvant chemotherapy cycles.

---

2022-RA-645-ESGO

**CONTRACEPTIVES AND CANCER RISKS IN BRCA1/2 PATHOGENIC VARIANT CARRIERS, A SYSTEMATIC REVIEW AND META-ANALYSIS**

Mayke van Bommel, Joanna IntHout, Guus Veldmate, Marleen Kets, Joanne de Hullu, Anne van Altena, Marline Hamsen. Obstetrics and Gynecology, Radboud university medical center, Nijmegen, Netherlands; 2Radboud university medical center, Nijmegen, Netherlands; 3Gelderse Vallei Hospital, Ede, Netherlands

**Introduction/Background** BRCA1/2 pathogenic variant (PV) carriers have a high risk of breast and ovarian cancer. Contraceptives impact these risks in the general population. Among BRCA1/2-PV carriers, sufficient data and clear recommendations regarding contraceptives are lacking. We investigated how contraceptives modify breast and ovarian cancer risk in BRCA1/2-PV carriers.

**Methodology** We investigated the risk ratio for developing breast cancer or ovarian cancer in BRCA1/2-PV carriers who have used contraception (any kind) versus BRCA1/2-PV carriers who have not. A systematic search identified studies describing breast and/or ovarian cancer risk in BRCA1/2-PV carriers as modified by contraception. Random-effects meta-analyses were used to estimate pooled effects for breast and ovarian cancer risk separately. Subgroup analyses were conducted for BRCA1 versus BRCA2 and per contraceptive.

**Results** Meta-analysis of 11 studies, including 25,857 women, reveals that breast cancer risk may be increased by the oral...