Introduction/Background Hereditary BRCA 1-2 mutations are known risk factors for the development of breast and ovarian cancer. Risk-Reducing Salpingo-Oophorectomy (RRSO) and bilateral mastectomy are the only effective risk-reducing strategies for these patients. Commonly these are two step surgical procedures performed separately. The aim of this study was to evaluate the feasibility and the efficacy of RRSO, combined with simultaneous mastectomy and breast reconstruction in BRCA 1-2 mutation carriers.

Methodology We conducted an observational retrospective study on patients with BRCA 1-2 mutation who underwent combined and simultaneous laparoscopic RRSO and mastectomy with breast reconstruction at the Gynaecology Clinic of Padua and Breast Unit of Veneto Institute of Oncology (IOV). Inclusion criteria: patients with BRCA 1-2 mutation, consent to simultaneous surgery. We collected data about age, menopausal status, history of breast carcinoma, pre-operative CA-125 levels, transvaginal-ultrasound features before surgery, operative times, intra and post-operative complications, follow up (FUP) information after RRSO and satisfaction about the simultaneous procedure.

Result(s) We included 40 patients: baseline characteristics are reported in table 1. RRSO was performed in all patients. 37 women underwent to bilateral mastectomy and 3 to monolateral mastectomy (all with breast reconstruction). The mean operative time was 229.6 ± 50.7 minutes (48 ± 16.9 minutes for the RRSO, 147.1 ± 43.6 for mastectomy and reconstruction with a mean surgical team changing time of 34.4 ± 19.6 minutes). No operative complications were reported for RRSO; concerning breast surgery we reported 4 cases of prosthesis loss and one of breast hematoma with a median FUP of 20 months (6-95). The mean hospitalization days was 3.4 ± 2.3. After one month after surgical procedure all patients expressed high satisfaction about the simultaneous surgery.

Abstract 743 Table 1 Patients general features

<table>
<thead>
<tr>
<th></th>
<th>BRCA 1 carriers (n= 23)</th>
<th>BRCA 2 carriers (n= 17)</th>
<th>TOTAL (n= 40)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age at RRSO*</td>
<td>46.1 ± 6.6</td>
<td>49.7 ± 8.1</td>
<td>47.6 ± 7.3</td>
</tr>
<tr>
<td>Breast Cancer before RRSO*</td>
<td>16 (69.5%)</td>
<td>10 (58.8%)</td>
<td>26 (65%)</td>
</tr>
<tr>
<td>Negative Preoperative CA-125</td>
<td>23 (100%)</td>
<td>17 (100%)</td>
<td>40 (100%)</td>
</tr>
<tr>
<td>Menopausal Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pre-menopausal</td>
<td>15 (65.2%)</td>
<td>5 (29.4%)</td>
<td>20 (50%)</td>
</tr>
<tr>
<td>Post-menopausal</td>
<td>8 (34.8%)</td>
<td>12 (70.6%)</td>
<td>20 (50%)</td>
</tr>
<tr>
<td>Familiarity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ovarian Cancer</td>
<td>12 (52.1%)</td>
<td>7 (41.1%)</td>
<td>19 (47.5%)</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>15 (65.2%)</td>
<td>13 (76.5%)</td>
<td>28 (70%)</td>
</tr>
<tr>
<td>Negative</td>
<td>3 (13%)</td>
<td>3 (17.6%)</td>
<td>6 (15%)</td>
</tr>
</tbody>
</table>

Legend: RRSO risk reducing salpingo-oophorectomy

Conclusion RRSO combined with simultaneous mastectomy and breast reconstruction is feasible, effective and provides an intriguing option for BRCA 1-2 mutation carriers. A single time for anaesthesia, hospitalization and a not increased complication rate lead to high satisfaction of the patients. Nevertheless, patient’s selection should be carefully performed and surgical teams have to be properly instructed and coordinated.

PROPHYLACTIC SALPINGO-OOPHORECTOMY IN BRCA 1–2 PATIENTS. PROFILE EPIDEMIOLOGICAL

F. Felipe Pardo, MD, Oliver*, J. Montero Olmeda, LP, Castillo Rabazo, A, Sofia, A, Laura, M Vega Garcia, A, Tejerizo. Hospital 12 de Octubre, Gynecology and Obstetrics, Madrid, Spain

Introduction/Background Familial predisposition has been described in 5-10% of women who develop ovarian cancer. Women with germ-line BRCA1/2 mutations have an increased risk of breast and ovarian cancer as compared with the rest of the population. Women with BRCA1 mutation have a 44% lifetime risk of developing ovarian cancer, whereas, BRCA2 mutation has lifetime risks of 17%. These women often undergo bilateral prophylactic oophorectomy to reduce this risk.

The objective of this study was to analyze the epidemiological characteristics of patients with BRCA 1/2 mutation undergoing prophylactic salpingo-oophorectomy for adnexal high-grade serous epithelial carcinoma.

Methodology We performed a prospective cohort study between January 2013 to January 2021. Patients with BRCA 1/2 mutations who underwent prophylactic bilateral salpingooophorectomy were included. A descriptive study of epidemiological characteristics of these patients was performed. All statistical analysis was performed with Stata/IC 13.0 for Windows.

Result(s) We analyze the epidemiological characteristics of 115 patients that were included. Of them, 50.4% (58) had BRCA 1 mutation and 49.6% (57) BRCA 2 mutation. Most occult ovarian carcinomas are found in women over 45 years of age. The median age at surgery was 49.2 (standard deviation, SD 5.8) years and 59.1% (68) of patients were postmenopausal.

Fifty (43.5%) of them were the family index case (first case of cancer) and sixty and (52.2%) had a previous diagnosis of breast cancer. The most frequent family history was: two cases of breast cancer in their family of 1 or 2 degree whose sum of ages at diagnosis was less than 120 years. The mean CA 125 value prior to surgery was 29.4 u/L. Adnexal findings were described in presurgery ultrasound as normal (104, 90.4%) or bening cyst (11, 17.4%).

Conclusion Most occult carcinomas are found in women over 45 years of age. Unfortunately, there is no screening test effective in detecting ovarian cancer at early stages. Therefore, the current recommendation is to undergo risk-reducing bilateral salpingo-oophorectomy after completing the gestational desire in carriers of BRCA1/2 mutations. Although, the main negative consequence of this surgery in premenopausal women is premature menopause. However, the risk is balanced by the morbidity and mortality associated with ovarian cancer, and these symptoms can be treated with some drugs.

DOUBLE HETEROZYGOTES FOR HIGH PENETRANCE SUSCEPTIBILITY GENES ARE NOT RARE AND REQUIRE SPECIAL CARE

M Zikan*, O Dubova, V Student, P Koliba, T Brtnicky, P Kabele. Charles University – First Faculty of Medicine and Bulovka University Hospital, Dept. of Gynecology and Obstetrics, Prague 8 – Libeř, Czech Republic

10.1136/ijgc-2021-ESGO.556
Introduction/Background Implementation of NGS panel sequencing (instead of single/double gene sequencing) into standard genetic testing for cancer susceptibility generation produces new and unexpected data on spectrum, proportion and combination of susceptibility genes’ mutations.

Methodology We analyzed results of genetic testing in healthy patients referred to our surveillance office, their pedigrees and clinical manifestations to identify and describe clinical meaning of combined heterozygosity in different cancer susceptibility genes. We also discuss prophylactic measures in these double heterozygotes.

Results In the group of 455 individuals who underwent genetic testing for known or suspicious genetic susceptibility to cancer, we identify 11 (2.4%) double heterozygotes, i.e. individual harbouring germ-line pathologic mutations in two high penetrance susceptibility genes. 8 of them have mutations in either BRCA1/2 genes and mismatch-repair genes (MLH1 or MSH2), 3 remaining have combination of BRCA1 mutation and RAD51, VHL and CHEK2, respectively. 3 out of 11 double heterozygotes developed cancer through median follow-up of 34 months, 2 breast cancer, 1 colorectal cancer. Pedigree analysis does not allow for individualisation of risk calculation.

Conclusion Double heterozygotes are known from literature, till the era of NGS panel sequencing, they were thought to be extremely rare. These individuals, however, represent a substantial proportion of our patients and need individualized scenario of surveillance with respect to different spectrum of risks compared to single mutation carriers.

Abstracts

UPTAKE OF POPULATION BASED BRCA-TESTING ACROSS JEWISH DENOMINATIONS AND AFFECT OF CULTURAL AND RELIGIOUS FACTORS: A COHORT STUDY

Introduction/Background Implementation of NGS panel sequencing is now being implemented in the Jewish population is the first population for whom unselected population testing is now being implemented. AJ men and women, >18 years, from London, self-referred, and attended recruitment clinics (for pre-test counselling. Subsequently consenting individuals underwent BRCA-testing. Mina outcome measures were: Interest, intention, uptake of BRCA-testing. Participants self-identified to one Jewish denomination: Conservative/Liberal/Reform/Traditional/Orthodox/Unaffiliated. Validated scales measured Jewish Cultural-Identity (JI) and Jewish Religious-Identity (JR). 4-item Likert-scales analysed initial interest and intention-to-test of pre-counselling. Item-Response-Theory and graded-response models, models responses to JI and JR scales. Ordered/multinomial logistic regression modelling evaluated association of JI-scale, JR-scale and Jewish Denominational affiliation on interest, intention and uptake of BRCA-testing.

Results 935 AJ women/men of mean-age = 53.8 (S.D = 15.02) years, received pre-test education and counselling through 256 recruitment clinic clusters (mean cluster size = 3.64). Denominational affiliations included Conservative/Masorti = 91 (10.2%); Liberal = 82 (9.2%); Reform = 135 (15.1%); Traditional = 212 (23.7%); Orthodox = 239 (26.7%); and Unaffiliated/Non-practising = 135 (15.1%). Overall BRCA-testing uptake was 88%. Pre-counselling 96% expressed interest and 60% intention-to-test. JI and JR scores were highest for Orthodox, followed by Conservative/Masorti, Traditional, Reform, Liberal and Unaffiliated Jewish denominations. Regression modelling showed no significant association between overall Jewish Cultural or Religious Identity with either interest, intention or uptake of BRCA-testing. Interest, intention and uptake of BRCA-testing was not significantly associated with denominational affiliation.

Conclusion Jewish religious/cultural identity and denominational affiliation do not appear to influence interest, intention or uptake of population-based BRCA-testing. BRCA-testing was robust across all Jewish denominations.

943 RISK-REDUCING SURGERY IN BRCA MUTATION: A MULTICENTRIC PROSPECTIVE STUDY

Introduction/Background BRCA1/2 are tumour-suppressor genes involved in DNA homologous recombination and ovarian cancer development.

Methodology Risk-reducing surgery (RRS) was performed in 148 patients carrying BRCA1 (aged between 30-73 years, median age was 51 years) and BRCA2 mutation (aged between 36-70 years, median age was 53 years). Seventy-nine patients had previous history of breast cancer. Results Between the all patients, 131 women underwent risk-reducing salpingo-oophorectomy (RSCO) through a laparoscopic minimally invasive approach, 11 (7.4%) underwent laparoscopic RRSO and contextual hysterectomy, 2 woman (1.3%) underwent RRSO through a laparoscopic approach and 12 women (8.1%) laparoscopic RRSO and hysterectomy. During 7 (4.7%) laparoscopic RRSO, prophylactic bilateral mastectomy was also performed.

Conclusion RRSO is safe and feasible in BRCA mutation carriers. The procedure is effective for genetic prevention of ovarian cancer.