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THE PROTEIN EXPRESSION OF TNFR2 AND STAT3 IN HIGH-GRADE SEROUS OVARIAN CANCER (HGSC) TISSUE AND ITS ASSOCIATION WITH PLATINUM SENSITIVITY

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Objective To determine the relationship between TNFR2 and STAT3 in high-grade serous ovarian cancer (HGSC) tissues with chemotherapy response and prognosis outcome.

Methods This is a retrospective cohort study involving HGSC patients underwent primary cytoreduction followed by first-line adjuvant platinum-based chemotherapy with a minimum follow-up of 12 months. Tissue microarray slides were constructed utilising archived paraffin tissue from 25 chemo-naïve patients with HGSC and were stained for protein expression.

Results Overexpression of TNFR2 (48%) and STAT3 (60%) were found in the ovarian tissue of patients with advanced stage disease. The median PFS was significantly longer in the platinum sensitive (PS) compared to the platinum resistant (PR) group (18 vs 3 months, $p=0.0001$). In PS patients, median PFS is shown to be of longer trend in the weakly expressed compared to the overexpressed group among TNFR2 (31 vs 18 months, $p=0.74$) and STAT3 proteins markers (34 vs 18 months, $p=0.693$), but were not statistically significant. Unexpectedly, among the PR group, the TNFR2 overexpressed group showed significantly better PFS compared to TNFR2 weak group (90 vs 30 days, $p=0.015$). Conversely, among the PR group, the STAT3 overexpressed group showed significantly longer PFS compared to STAT3 weak expression group (120 vs 30 days, $p=0.017$).

Conclusion The PFS was found to be better trend among PS with TNFR2 or STAT3 weak expression tumour. Conversely, in the PR group, the PFS was longer among the strong protein expression tumour. Further study using a larger number of tissues is recommended to achieve statistical significance.

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COMPARATIVE BENEFIT OF OLAPARIB IN RECURRENT BRCAm OVARIAN, BREAST, PANCREATIC AND PROSTATE CANCER

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Objectives To compare the extent of clinical benefit and cost effectiveness of olaparib in ovarian cancer compared to breast, pancreatic, and prostate cancer.

Methods Data were extracted from FDA labels for olaparib. We compared the use of olaparib in gBRCAm (germline BRCA mutant) recurrent ovarian, breast, prostate, and pancreatic cancer. Prevalence of the germline BRCA biomarker and survival benefit were compared between gynecologic and other

cancer types. Incremental cost effectiveness ratio (ICER) analyses will be performed.

Results In ovarian cancer, 15–20% of patients carry gBRCAm. Treatment with olaparib at recurrence with gBRCAm increased PFS by 4.7 months progression-free survival (PFS) versus gBRCAwt (Study 19). In gBRCAm breast cancer, 10–15% of patients carry gBRCAm and had 2.8 month PFS benefit (OlympiAD). In pancreatic adenocarcinoma, gBRCAm is present in 9%, and POLO demonstrated a 3.6 months PFS benefit. Olaparib is approved for gBRCAm or homologous-recombination deficient (HRD) in metastatic castration resistant prostate cancer. With gBRCAm (present in 1–2% of patients), there was a 3.8 month of PFS benefit (PROfound), and 2.3 months including gBRCAm and HRD.

Conclusions Across cancer types with FDA approval for olaparib, the clinical benefit and proportion of patients eligible is highest in ovarian cancer. PFS benefit is similar across cancer types (2–5 month range). Prostate cancer is the only cancer with FDA approval for treatment with olaparib in the recurrent setting for both HRD and gBRCA. Additional study is on HRD breast, pancreatic, and ovarian cancer to determine if olaparib therapy could benefit these populations.

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ADJUVANT TREATMENT FOR ADENOSARCOMA CONFINED TO THE UTERUS PROVIDES NO SURVIVAL BENEFIT

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Introduction Aim of the present study was to investigate patterns of use and outcomes of adjuvant treatment for patients with stage I adenosarcoma.

Methods Patients diagnosed between 2004–2015 with stage I adenosarcoma without a history of another tumor who underwent hysterectomy with lymphadenectomy and had at least one month of follow-up were drawn from the National Cancer Database. Patients who received adjuvant chemotherapy (CT) and/or radiotherapy (RT) defined as treatment within 6 months from surgery were identified. Overall survival (OS) was evaluated after generation of Kaplan-Meier curves and compared with the log-rank test. A Cox model was constructed to control for confounders.

Results Among 735 patients with stage I adenosarcoma, 186 (25.3%) received adjuvant treatment; 61.3% RT only, 26.9% CT only and 11.8% both RT and CT. Rate of adjuvant treatment was 14.1% for patients with stage IA compared to 35.8% and 53.3% for those with stage IB and IC, $p<0.001$. Age, race, insurance, type of treatment facility and co-morbidities did not impact rate of adjuvant treatment administration, $p>0.05$. Five year OS rate for patients who did not receive adjuvant treatment was 79.9% compared to 63.4%, 68.8% and 74.1% for those who received RT only, CT only and both CT and RT, $p=0.002$. After controlling for substage, patient age, insurance status and co-morbidities, administration of adjuvant treatment was not associated with a survival benefit (HR: 1.29, 95% CI: 0.92, 1.58)

Conclusions There is no clear benefit in the use of adjuvant treatment for patients with early stage adenocarcinoma.

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PRACTICING KNOWLEDGE TRANSLATION: BUILDING AWARENESS AND ASSESSING BARRIERS AND FACILITATORS TO PROVINCIAL IMPLEMENTATION OF THE PROACTIVE MOLECULAR RISK CLASSIFIER FOR ENDOMETRIAL CANCER (PROMISE)

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Objectives In preparation for provincial implementation of ProMisE molecular classification, two KT objectives were identified: 1) build awareness of ProMisE with first line knowledge users (KUs); and 2) elucidate barriers and facilitators to KUs use of ProMisE.

Methods KUs were defined as pathologists, and clinicians (general practitioners, gynecologists, and oncologists) from rural and urban centres. The KT intervention was an explanatory video reviewing the rationale and relevance of molecular classification via three segments: ProMisE overview, clinician-focused, and pathologist-focused. Dissemination of the video to KUs occurred using a mixed-methods approach in two phases: I: KUs were exposed to the video and survey through institutional listservs; II: KUs were engaged for in-person viewing and focus group.

Results The survey received 41 partial and 37 complete responses with representation from all targeted KUs: gynecologists (62.2%), oncologists (rad+gyn-oncs+other 32.4%), pathologists (5.4%) and all provincial health authorities. 95.1% of KUs watched the ProMisE overview, with 80.5% and 68.3% completing the clinician and pathology segments, respectively. Over 90% of respondents reported it having contained enough information to understand the advantages, and 64% felt ProMisE would be useful to guide management. KUs across specialties participated in a focus group (n=19; 7 rural) to identify barriers and facilitators to implementation. Thematic analysis of survey and focus group illuminated implementation concerns related to cost, availability, accessibility, process, training, and interpretation of the test.

Conclusions Motivation and engagement for EC molecular classification was recognized by KUs with implementation concerns. Addressing cross-provincial access, process, and timely results will ensure rapid uptake and fidelity.

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ENDOMETRIAL CANCER: THE ROLE OF PROGNOSTIC FACTORS AND THEIR IMPACT ON RECURRENCE PATTERN

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Introduction The rate of recurrence of endometrial cancer is 11–19%. It is related to different prognostic factors which define

specific risk classes in order to decide for an adjuvant treatment. The objective of this study is to evaluate how prognostic factors influence the probability and pattern of recurrence.

Methods This monocentric observational retrospective study was conducted on 214 patients treated for endometrial cancer between February 2011–2019. The considered parameters were: age, BMI, surgery, stage, LVSI, myometrial infiltration, histological grade, lymph node involvement, adjuvant therapy, relapse. DFS and OS were stratified by the presence or absence of prognostic factors.

Results The rate of recurrence was 18,7%. DFS was 24,5 months and OS was 103,2 months. We observed an increase from 5 to 25% in the distance metastasis rate associated with positive LVSI. The univariate analysis showed a correlation between DFS and advanced stage (O.R. II 9,2; III-IV 7,9 p=0,0001), positive lymph node infiltration (O.R. 4,2; p=0,02), myometrial infiltration (O.R. 4,3 p=0,0001) and LVSI (O.R. 2,4 p=0,008). A similar result was observed considering the OS and the grading (p=0,003). We conducted the multivariate analysis of Cox according to the ESGO/ESMO/ESTRO risk class classification and multicollinearity among variables was observed. The results were statistically significant for both DFS (p=0,002) and OS (p=0,000).

Conclusions Almost all the considered prognostic factors influence the presence of recurrence, but the stage is the most impactful factor while LVSI correlates with distance metastasis. The definition of the risk factors must be considered to develop targeted therapeutic pathways.

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ONCOLOGICAL OUTCOMES FOLLOWING RISK REDUCING BILATERAL SALPINGO-OOPHORECTOMY IN WOMEN DEEMED HIGH RISK FOR OVARIAN CANCER

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Introduction This study aims to determine cancer rates following risk reducing bilateral salpingo-oophorectomy (BSO) in a high risk cohort. High risk women are those who carry an oncogenic gene mutation or have a strong family history of cancer. We aimed to establish the rate of both occult cancer and the precursor lesion serous tubal intraepithelial carcinoma (STIC). We also documented any subsequent diagnosis of primary peritoneal carcinoma (PPC).

Methods A retrospective study of 274 patients who underwent prophylactic BSO between January 2009 and January 2019 at the Royal Derby Hospital.

Results The median age at risk reducing surgery (RRS) was 47 (range 29 to 78). 151 patients (55%) were confirmed to have a high risk gene mutation. STIC was found in only one patient (0.3%) at RRS, however 3 further malignancies were diagnosed (1% of cases) one of which was tubal. Two patients subsequently developed PPC (0.7%), at 42 and 70 months respectively; neither of whom had STIC diagnosed at surgery. 99% of procedures were completed laparoscopically with a complication rate of 3%.

Conclusion Women with the BRCA gene or significant family history can carry up to a 50% lifetime risk of ovarian cancer. This study has shown that BSO reduces that risk to under