

observed for both oncologists (considerable effect, $V=159$, $P<.0001$; with average% of correct responses increasing from 59 to 74%) and obs/gyns (noticeable effect, $V=.101$, $P<.01$; average% of correct responses increasing from 48 to 58%). Participants with 3/3 correct answers increased from pre- to post-activity (16 to 44% for oncologists and 11 to 32% for obs/gyns). Improvements in% of correct responses post-activity were seen for questions on identifying data from PRIMA trial of niraparib (oncologists: 18 to 48%; obs/gyns 16 to 41%) and the PAOLA trial data for olaparib (oncologists: 68 to 80%; obs/gyns 53 to 59%). Participants had a good baseline understanding of the correct treatment approach for a patient presenting with HRD +ve advanced ovarian cancer (90% oncologists, 74% obs/gyns with the correct answer), although no increases were observed post-activity. Confidence in the ability to integrate PARP inhibitors into practice improved post-activity (total average confidence shift: 14% for oncologists and 29% for obs/gyns). 47% of all participants stated they would modify treatment plans as a result of participation in the activity.

Conclusion This on-demand, online video panel discussion resulted in a positive educational impact. However, education gaps remain evident, especially amongst obs/gyns. Online medical education, increasingly important during the COVID-19 pandemic, is valuable in supporting implementation of new treatment strategies and identifying areas of continued educational need.

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CLINICAL CHARACTERISTICS AND PROGNOSIS OF OVARIAN CLEAR CELL CARCINOMA: A 10-YEAR RETROSPECTIVE STUDY

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Introduction/Background Ovarian clear cell carcinoma (OCCC) is a special subtype of epithelial ovarian carcinoma with unique characteristics and no specific tumour markers. Due to the inherent chemoresistance, there are no effective chemotherapy regimen for OCCC, resulting in the extremely poor prognosis of patients, especially at advanced stage. Therefore, the purpose of our research is to investigate the clinical characteristics and outcomes of ovarian clear cell carcinoma (OCCC) and to provide additional supporting evidence to aid in the clinical diagnosis and management.

Methodology This was a retrospective study investigating the clinical characteristics and survival outcomes of 87 patients with OCCC treated at The First Affiliated Hospital of University of Science and Technology of China (USTC), between January 2010 and March 2020. Survival analysis was also performed on 179 patients with OCCC diagnosed between 1975

and 2017, obtained from the Surveillance, Epidemiology and End Results (SEER) cancer registry database.

Results The median age of study participants was 49.28 ± 9.8 years old, with 74.71% diagnosed at an early stage. Median CA125 level was 607.26 IU/mL, with 23.94% having a normal CA125 level. 16 patients (18.39%) had co-existing endometriosis and 8 patients (9.2%) had a preoperative history or developed postoperative complications of venous thromboembolism (VTE). Surgical staging procedures were performed on 65 patients and cytoreduction was performed on 22 patients, among whom 17 patients received optimal cytoreduction. 67 patients (77.01%) underwent lymphadenectomy, and only 3 (4.48%) were found to have positive lymph nodes. Positive HNF1 β , and negative WT-1, ER, and PR are reliable immunohistochemical indicators of OCCC. Patients diagnosed at an early stage had higher 3-year overall survival (OS) (89.47% vs. 44.44%) and progression-free survival (PFS) rates (78.95% vs. 22.22%) than those with advanced stage OCCC at diagnosis. CA199 ($P = 0.025$) and ascites ($P = 0.001$) were significantly associated with OS, while HE4 ($P = 0.027$) and ascites ($P = 0.001$) were significantly associated with PFS. Analysis of data from the SEER database showed that the presence of positive lymph nodes is also an independent prognostic factor for OS ($P = 0.001$).

Conclusion OCCC often presents at an early stage and young age with a mild elevation in CA125 level. CA199, HE4, massive ascites and positive lymph node are independent prognostic factors for overall survival in OCCC.

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CHARLSON COMORBIDITY INDEX AS A FACTOR IMPACTING SURVIVAL AMONG OVARIAN CANCER PATIENTS – RESULTS FROM A SYSTEMATIC REVIEW

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Introduction/Background There are a few scattered primary level studies from various regions of the globe proving impact of co-morbidities on survival in ovarian cancer patients. In last 20 years, there has been improvement in survival among ovarian cancer patients. Radical surgical approaches and advancements in chemotherapeutic agents have primarily contributed for same. Pre-existing uncontrolled co-morbidities impact ovarian cancer survival directly and indirectly. This affects the performance status of the patient leading to delay in treatment or aversion from radical surgical approaches thereby not achieving the goal of optimal treatment. It may also lead to a less aggressive chemotherapeutic modifications of using lower doses or single agent chemotherapy. The objective of this study was to systematically review the literature and summarize prevalence of various comorbidities with evaluation of impact of the Charlson Co-morbidity Index (CCI) on survival in ovarian cancer patients.

Methodology Primary studies were identified by following a defined search strategy on the prevalence of co-morbidity and survival pattern among ovarian cancer patients. This study has been conducted in accordance with PRISMA guidelines for systematic review. Co-morbidity assessment in the included studies had been done through the Charlson Co-morbidity Index (CCI) tool. Qualitative summarization of data from included studies for prevalence of various co-morbidities and influence of CCI score on survival in ovarian cancer patients has been performed.

Results Common co-morbidities prevalent in ovarian cancer patients were hypertension (11% to 26%), cardio vascular disease (4.5% to 12%) and diabetes (2.5% to 8.3%). Less commonly occurring co-morbidities were liver disease, renal disease, neurological problems and collagen vascular disease. Majority of ovarian cancer patients lie in CCI score 0 (68% - 76%). The range for one year% survival for CCI score 0 was 73 to 80%, for CCI score 1-2 : 58 to 71% and CCI score 2 + : 43 to 53%. The range five year% survival for CCI score 0 was 37 to 43%, for CCI score 1-2 : 24 to 30% and CCI score 2+ : 12 to 23%.

Conclusion Co-morbidities plays an important role in survival outcomes among ovarian cancer patients. Overall one year% and five year% survival decreases with increase in the CCI index score.

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COMPLETE SURGICAL CYTOREDUCTION REMAINS PIVOTAL IN ACHIEVING BETTER SURVIVAL OUTCOMES IN PATIENTS WITH ADVANCED OVARIAN CANCER WITH A BRCA1/2 GERMLINE MUTATION IN THE PRE-PARP INHIBITOR ERA

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Introduction/Background Ovarian malignancies arising in patients with germline BRCA1/2 mutations are characterised by increased platinum sensitivity. It is not known if this feature should be considered when choosing between primary surgical and neoadjuvant therapy at the time of diagnosis. We hypothesised that patients with BRCA 1/2 germline mutations have a better response to neoadjuvant chemotherapy, and their surgery may be less extended to achieve a complete surgical cytoreduction. We aimed to compare pre-operative, intra-operative, and survival parameters between patients with and without a BRCA 1/2 germline mutation.

Methodology A total of 168 prospectively registered BRCA 1/2 typed women with a diagnosis of advanced ovarian cancer (AOC) at St James's Institute of Oncology, Leeds, who underwent cytoreductive surgery following neoadjuvant chemotherapy between October 2013 and October 2018 were identified. Primary outcomes included progression-free survival (PFS) and overall survival (OS). Secondary outcomes included chemotherapy response score (CRS), performance status (PS) and residual disease (RD). Differences between BRCA-positive and BRCA-negative groups were analysed using Stata 13[®]. $P < 0.05$ was considered as statistically significant.

Results Patients with a complete surgical cytoreduction had longer OS compared to those with an optimal or sub-optimal cytoreduction (48 vs 31 months, $p=0.0001$). PS and CRS were independent predictors for PFS, irrespective of BRCA status ($p=0.00001$ and 0.00006). There was no significant difference between BRCA mutation carriers and non-carriers for mean PFS and OS (19 vs 18 months, and 50 vs 42 months, $p=0.69$ and 0.39 , respectively). BRCA mutation carriers had no better chemo response or less extended surgery to achieve a complete surgical cytoreduction following neoadjuvant chemotherapy compared to non-carriers ($p=0.67$ and 0.5 , respectively). In the subgroups of patients with a PS of 2 and those receiving single-agent chemotherapy, BRCA mutation carriers had shorter OS than non-carriers (RR 0.4 and 0.31, 95% CI 0.17-0.91 and 0.1-0.93, $p=0.029$ and 0.037 , respectively). In the subgroup of patients with a CRS of 3, BRCA mutation carriers had longer PFS and OS than non-carriers (RR 12.5 and 20.8, 95% CI 3.32-47.6 and 4.8-88.8, $p=0.00$ and 0.00 , respectively).

Conclusion Complete surgical cytoreduction remains pivotal in achieving better survival outcomes in AOC women, irrespective of BRCA status. A survival benefit is unlikely for patients with poor PS, and those receiving single-agent chemotherapy. A favourable response to neoadjuvant chemotherapy or less extended surgery to achieve a complete surgical cytoreduction in patients with a BRCA 1/2 germline mutation could not be confirmed.

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TWO-YEAR PROGNOSIS ESTIMATION OF ADVANCED HIGH GRADE SEROUS OVARIAN CANCER PATIENTS USING MACHINE LEARNING

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Introduction/Background Accurate prediction of patient prognosis can be especially useful for the selection of best treatment protocols. Machine Learning (ML) can serve this purpose by making predictions based upon generalizable clinical patterns embedded within learning datasets. We hypothesised that use of ML algorithms could improve prognosis estimation in advanced high grade serous ovarian (HGSOC) patients. We aimed to compare the performance of two ML prediction methods for HGSOC prognosis, based on Area Under Curve (AU-ROC) performance for a 2-year prognosis period.

Methodology This was a retrospective analysis of 209 FIGO stage III-IV HGSOC women, who were scheduled for cytoreductive surgery in SJUH, Leeds between Jan 2015 to Dec 2018 with curative or life-prolonging intent. Support-Vector-Machine (SVM) and K-Nearest Neighbors (K-NN) were employed to model prognosis. The prognosis estimation problem was formulated as a binary classification problem. For the 2-year prognosis period, two groups were defined using patient survival information; patients who did not relapse or survived beyond two years were labelled in the positive class and patients who relapsed or died before reaching that period