Conclusion* Using a multimodal approach, including IHC and FACs, we demonstrate that the metastatic TME in HGSOC is significantly different to the primary TME. These findings provide an initial explanation as to why immune checkpoint inhibitors have failed in HGSOC and warrant further investigation.

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FERTILITY OUTCOMES FOLLOWING FERTILITY SPARING SURGERY FOR THE MANAGEMENT OF EARLY-STAGE CLEAR CELL OVARIAN CARCINOMA; A SYSTEMATIC REVIEW

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Introduction/Background* The application of fertility sparing surgery (FSS) in patients with clear cell ovarian carcinoma (CCOC) has been extensively criticized, even in patients with stage IA or IC disease, due to the high reported recurrence rates and the resistance to chemotherapy. The objective of the present study was to evaluate the obstetric and fertility outcomes of patients with early stage CCOC following fertility sparing surgery (FSS).

Methodology Three electronic databases were systematically searched for articles published in the field up to December 2020 using the terms "ovarian cancer", "clear cell", "fertility sparing", "conservative treatment". Studies that reported pregnancy and obstetric outcomes after FSS for the management of early stage CCOC were considered eligible for inclusion.

Result(s)* A total of 5 retrospective studies with 60 patients with CCOC who underwent FSS were included. Mean patients' age was 34.8 years. The total clinical pregnancy rate was 32% with a proportion of 24% of live birth rates in 12 of the included patients. The median interval from disease management to pregnancy was 41.5 months. Recurrence rate was 16.6% among the included patients. Survival and recurrence rates were not different in patients who had FSS compared to those who had radical surgery.

Conclusion* Fertility-sparing treatment for stage IA/IC CCOC seems to be an acceptable treatment option for selected women of reproductive age with a strong desire of fertility preservation. Further larger multicenter studies and studies derived from registries are warranted to validate the special aspects of the procedure and to designate the potential candidates who will receive survival and fertility benefit from fertility-sparing surgery.

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SIGNIFICANT SURVIVAL BENEFIT IS ASSOCIATED WITH COMPLETE CYTOREDUCTION IN DELAYED CYTOREDUCTIVE SURGERY FOR ADVANCED OVARIAN CANCER

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Introduction/Background* The current gold standard in the surgical management of advanced ovarian cancer (AOC) recommended by ESGO and ASCO is complete resection of all visible disease. If this is not deemed possible in the upfront

setting, then interval cytoreductive surgery should be undertaken after ≤ 4 cycles of NACT. Occasionally due to the persistence of unresectable sites of disease on interval scanning or because of factors associated with fitness for surgery, surgery in the interval setting may not be possible.

Limited published data assessing outcomes from surgery delayed to after 5 or 6 cycles of NACT (delayed cytoreductive surgery) suggests a potential benefit over no surgery and suggests that if interval cytoreductive surgery is not possible, then the clinician might consider delayed surgery on a case by case basis.

We sought to review the outcomes of patients with AOC presenting to the Northern Gynaecological Oncology Centre (NGOC) who underwent delayed surgery.

Methodology This study is a retrospective analysis looking at patients with AOC referred to the Northern Gynaecological Oncology Centre (NGOC), Gateshead, UK between 2017 and 2020, who were not deemed suitable to undergo either primary cytoreductive or interval debulking surgery and instead had DDS following 5 or 6 cycles of NACT.

Result(s)* Over the 3 year period, 401 patients with AOC were referred to the NGOC MDT. 25 patients had delayed surgery, 16 (66.7%) patients had surgery after 5 cycles of chemotherapy, 7 (28%) patients had surgery after 6 cycles and there was incomplete data in 1 patient. The median age was 64. 66.7% (16/24) presented with stage IIIC disease, 12.5% (3/24) were stage IVA and 20.8% (5/24) were stage IVb. The majority had high grade serous carcinoma (91.7%). All patients had platinum based NACT (Carboplatin), 17 had dual agent chemotherapy with Paclitaxel and 3 had additional Bevacizumab.

18/19 received post-operative chemotherapy and complete cytoreduction was achieved in 17/24 (71%) patients. Sub-optimal cytoreduction was more common in patients having surgery after 6 cycles and the median overall survival was 24 months in those completely cytoreduced compared to 9.5 months in those with residual disease ($p=0.03$).

Conclusion* A significant improvement in OS is seen in women who are completely cytoreduced after ≥ 5 cycles compared to those with residual disease post-operatively. Therefore, if complete clearance can be achieved, cytoreductive surgery should be offered to all patients even after ≥ 5 cycles.

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DIAGNOSTIC FEATURES OF OVARIAN CANCER IN PREMENOPAUSAL WOMEN

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Introduction/Background* Ovarian cancer (OC) is the most lethal gynaecological malignancy worldwide, specially because it's diagnosed as advanced-stage disease. Clinical aspects are inespecific and appear in advanced stages. Ultrasound study (US) remains the primary modality for assessment of ovarian tumors. Computed tomography (CT) imaging is the standard of care for pre-operative evaluation of ovarian cancer patients. Serum CA125 assay has low sensitivity in early stages.

Methodology Retrospective analysis of women under 45 years old diagnosed of epithelial and non-epithelial ovarian cancer during the last 10 years.

Result(s)* 25 women under 45 years with OC were reviewed. Mean age at diagnosis was 36.27 years (SD 5.77; min:21, max: 43). Most of the tumors (52% N:13) were epithelial serous OC (Clear cells: 20.0% N:5; Endometrioid: 12.0 N:3; Mucinous: 8.0% N:2; Endodermal sinus: 4.0% N:1; Granulosa cell: 4.0% N: 1). Most of the patients were diagnosed in advanced tumoral stages (III-IV: 68.0%, N:17). Only 24.0% of patients were asymptomatic (N:6) at the time of diagnosis. Abdominal pain (44.0% N:11) or abdominal distension (40.0% N:10) were the most frequent complain. Other clinical aspects included: intestinal obstruction (N:4), dyspnoea (N:4), deep venous thrombosis (N:2), fever (N:1) or cerebellar degeneration (N:1). US study revealed an extended abdominal mass in most cases with a mean diameter of 10.09 cm (5.72 SD, max: 20 cm; min:4 cm). US suspicion of malignancy was high or intermediate in 77.27% (N:17%). Ascites was found in 26.09% (N:6). CT imaging completed the preoperative study detecting extrapelvic affectation in 50.0% of cases (N: 12) with liver extension in 29.17% (N:7), retroperitoneal dissemination in 45.83% (N:11) and supradiaphragmatic disease in 6 patients (25.0%). Serum Ca125 was normal in 5 patients (22.72%): 1 high grade epithelial serous OC, 2 clear cell OC, 1 endometrioid carcinoma, 1 granulosa cell OC.

Conclusion* Early diagnosis of OC in premenopausal women is difficult. Clinical aspects were inespecific. Ultrasound features showed a big pelvic mass in most cases with high grade of suspicion of malignancy. CT imaging completed the preoperative study. Ca 125 is not always a good marker for the diagnosis in this group of patients.

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MINIMALLY INVASIVE SECONDARY CYTOREDUCTIVE SURGERY FOR CELIAC AND CARDIOPHRENIC ISOLATED NODAL RECURRENCE OF OVARIAN CANCER

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Introduction/Background* Despite the advances in cytoreductive efforts and frontline chemotherapy in advanced ovarian cancer (OC), recurrence is a common event, with >70% of women experiencing relapse within two years of from diagnosis. The standard treatment for recurrent ovarian cancer (ROC) patients has been traditionally represented by systemic chemotherapy; however, this concept has been recently recognized as presenting a greater level of complexity given the influence of histotype, status of BRCA genes, previous antiangiogenic treatment and pattern of relapse presentation. Several retrospective studies, as well as randomized prospective trials suggested that secondary cytoreductive surgery (SCS) could provide better oncological outcomes in platinum-sensitive ROC patients, in case of complete cytoreduction, which has to be considered the goal to be achieved.

Methodology As far as lymph node relapse is concerned, some biological and clinical lines of evidence suggest that lymph

node recurrences from OC would be better managed with SCS than medical treatment alone, given a relatively more indolent clinical behaviour compared to parenchymal and peritoneal disease. However, the documentation of lymph nodes metastasis in the hepatoceliac and cardiophrenic region at the time of SCS might be considered as a challenging clinical and surgical scenario.

Although surgical management by minimally invasive surgery (MIS) could be expected to represent a demanding task in SCS, this video provides a step-by-step description of the surgical technique adopted for hepatoceliac and cardiophrenic lymph nodes resection.

Result(s)* No perioperative complications occurred. Blood loss was 50 mL. The patient was discharged on day 4 and resumed chemotherapy less than a month after surgery.

Conclusion* MIS is feasible and could be a viable option for selected cases of ROC, minimizing the intra- and post-operative complications.

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EVALUATING THE FEASIBILITY, MORBIDITY AND BENEFIT OF DIAPHRAGMATIC SURGERY IN ADVANCED OVARIAN CANCER. 74 CONSECUTIVE CASES OVER A 7 YEAR PERIOD

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Introduction/Background* Diaphragmatic disease may be present in 90% of patients with stage IIIc/IV ovarian cancer. Whilst diaphragmatic involvement previously represented a potential obstacle to complete cytoreduction, techniques and surgeon experience – and hence feasibility of diaphragmatic debulking – have evolved since first described in 1989. With the most important prognostic indicator being achievement of R0 status, a preparedness to undertake diaphragmatic procedures demonstrates maximal cytoreductive effort for optimal patient outcome.

Methodology All women undergoing diaphragmatic surgery for advanced tubo-ovarian or primary peritoneal carcinoma in a tertiary-referral cancer centre between 2014-2020 were identified and data collected retrospectively.

Result(s)* 74 patients were identified. Mean age was 63.7years. 78.4% (n=58) of cancers were tubo-ovarian and 21.6% (n=16) primary peritoneal. 51.4% (n=38) of patients had radiologically stage III disease; and the remainder (n=36) stage IV.

The frequency of diaphragmatic procedures increased from 3/year in 2014 to 19/year by 2020. 40.5% (n=30) of surgeries were undertaken as primary debulking and 59.5% (n=44) as delayed primary surgery. 95.9% (n=71) were undertaken in addition to other ultra-radical procedures – 97.3% (n=72) of cases being assigned high or intermediate surgical complexity scores. The majority of patients had right-sided diaphragmatic disease. In 74.3% (n=55) of case, diaphragmatic peritoneal stripping was performed; resection in 50% (n=37); and in 5.4% (n=4) ablation. R0 was achieved in 91.9% (n=68). No procedure-specific intra-operative complications occurred. Mean surgery time was 433minutes and blood loss 1242 millilitres.

All patients had planned post-operative admission to HDU/ITU. Mean length of in-hospital stay was 13.9days. 21