and they were unchanged. We took a biopsy of the other ovary. Histopathological findings confirmed that it was a malignant teratoma. One month after the operation, the patient developed abdominal pain and an ultrasound showed a cyst on the other ovary. We performed a second laparotomy and the whole abdomen was with meta changes. We did hysterectomy, omentectomy, and oophorectomy. She received six cycles of chemotherapy but unfortunately, the patient died after 7 months of primary treatment.

Conclusion Although malignant teratoma is very rare caution should always be exercised in treating these tumors and the dilemma remains as to which is the best option in primary treatment as it is most often young women who want to preserve their fertility. Can elevated alpha-fetoprotein levels help us predict the potential malignant transformation of ovarian cystic teratomas?

**Abstracts**

**2022-RA-1014-ESGO**

**INCIDENCE OF PELVIC HIGH-GRAND SEROUS CARCINOMA AFTER ISOLATED STIC DIAGNOSIS: A SYSTEMATIC REVIEW OF THE LITERATURE**

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**Introduction/Background** Serous tubal intraepithelial carcinoma (STIC) is a precursor lesion of pelvic high-grade serous carcinoma (HGSC). Information on treatment and outcome of isolated STIC is rare. Therefore, we reviewed systematically the published literature to determine the incidence of subsequent HGSC in the high- and low-risk population and to summarize the current diagnostic and therapeutic options.

**Methodology** A systematic review of the literature was conducted in MEDLINE-Ovid, Cochrane Library and Web of Science of articles published from February 2006 to July 2021. Patients with an isolated STIC diagnosis with clinical follow-up were included. Study exclusion criteria for review were the presence of synchronous gynaecological cancer and/or concurrent non-gynaecological malignancies.

**Results** 3031 abstracts were screened. 112 isolated STIC patients out of 21 publications were included in our analysis with a pooled median follow-up of 36 (interquartile range (IQR): 25.3–84) months. 71.4% of the patients had peritoneal washings (negative: 62.5%, positive: 8%, atypic cells: 0.9%). Surgical staging was performed in 28.6% of all STICs and did not show any malignancies. 14 out of 112 (12.5%) patients received adjuvant chemotherapy with Carboplatin and Paclitaxel. Eight (7.1%) patients developed a recurrence. 42.5 (IQR: 33–72) months after isolated STIC diagnosis. Cumulative incidence of HGSC after five (ten) years was 10.5% (21.6%). Recurrence occurred only in BRCA1 carriers (seven out of eight patients, one patient with unknown BRCA status).

**Conclusion** The rate of HGSC after an isolated STIC diagnosis was 7.1% with a cumulative incidence of 10.5% (21.6%) after five (ten) years. HGSC was only observed in BRCA1 carriers. The role of adjuvant therapy and routine surveillance remains unclear, however, intense surveillance up to ten years is necessary.

**2022-RA-1022-ESGO**

**IMPLEMENTATION OF MACHINE LEARNING IN A CARE PATHWAY FOR ADVANCED EPITHELIAL OVARIAN CANCER: A NATIONAL CANCER INSTITUTE EXPERIENCE**

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**Introduction/Background** Nowadays, the knowledge of quality indicators may enable physicians to adapt the patients’ care to current standards and recommendations. Thus, the implementation of machine learning in a care pathway can be observed as an asset. The objective of this work was to describe the development of a care pathway for advanced epithelial ovarian cancer (EOC) using artificial intelligence, in a National Comprehensive Cancer Institute.

**Methodology** A multidisciplinary team defined the key steps of the AEOC pathway. Valuable indicators were defined based upon national and international guidelines. The software was educated to extract items of interest from the patient’s electronic medical record. Automatic alerts are controlled by the medical referents. Data are automatically updated daily.

**Results** Gradually, 17 AEOC keys steps and 21 indicators were selected. From January 2018 to April 2022, 403 patients were identified in the Turquoise pathway. The median delays were: from first call to first medical appointment, 6 days; from first appointment to laparoscopic diagnostic procedure, 12 days; from first appointment to start of primary chemotherapy if indicated: 33 days. Our center is a European Society of Gynaecological Oncology (ESGO) accredited center for ovarian cancer: the ESGO indicators for AEOC were easily available, and confirmed the intermediate center status with 72 to 117 cytoreductive surgeries per year. Adverse events were prospectively recorded, with a 8% rate of surgical complications after cytoreductive surgery. Twelve to 18% of patients were included in clinical trials. The SARS-CoV-2 pandemic impact was clearly identified with an increased number of neoadjuvant chemotherapy.

**Conclusion** The use of artificial intelligence has enabled the construction of a critical care pathway with real time feedback that helps to target the best quality of medical and surgical care. In the future, appointments will be streamlined to enhance the patients’ treatment course.

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**ROLE OF RADIOTHERAPY IN PLATINUM SENSITIVE OLIGOMETASTATIC RECURRENT OVARIAN CANCER: A VALID ALTERNATIVE TO DELAY SYSTEMIC TREATMENT**

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**Introduction/Background** Gradually, 17 AEOC keys steps and 21 indicators were selected. From January 2018 to April 2022, 403 patients were identified in the Turquoise pathway. The median delays were: from first call to first medical appointment, 6 days; from first appointment to laparoscopic diagnostic procedure, 12 days; from first appointment to start of primary chemotherapy if indicated: 33 days. Our center is a European Society of Gynaecological Oncology (ESGO) accredited center for ovarian cancer: the ESGO indicators for AEOC were easily available, and confirmed the intermediate center status with 72 to 117 cytoreductive surgeries per year. Adverse events were prospectively recorded, with a 8% rate of surgical complications after cytoreductive surgery. Twelve to 18% of patients were included in clinical trials. The SARS-CoV-2 pandemic impact was clearly identified with an increased number of neoadjuvant chemotherapy.

**Conclusion** The use of artificial intelligence has enabled the construction of a critical care pathway with real time feedback that helps to target the best quality of medical and surgical care. In the future, appointments will be streamlined to enhance the patients’ treatment course.
Introduction/Background Ovarian cancer (OC) represents the most lethal gynaecological malignancy, with approximately 80% of advanced OC patients experiencing a recurrence after primary treatment. The role of radiotherapy in recurrent OC has been recently explored. The aim of this study was to assess the efficacy of advanced radiotherapy at the time of the 1st platinum-sensitive oligometastatic recurrence.

Methodology Patients with epithelial OC undergoing primary treatment at the European Institute of Oncology, Milan, from January 2010 to April 2019 were retrospectively identified. Among those, patients treated with stereotactic or intensity-modulated radiotherapy (IMRT) alone at the time of 1st platinumsensitive oligometastatic recurrence were included. Patients with encephalic or vertebral recurrence were excluded. Response rate (based on RECIST 1.1 criteria), predictor of treatment response, and survival outcome were evaluated with appropriate statistical analysis.

Results In total, 31 patients meeting inclusion criteria were included. Of them, 18(58.1%) had a complete response, 7 (22.6%) a partial response, and 6 (19.3%) a progressive disease [1(3.2%) both in-field and out-of-field, 5(16.1%) out-of-field]. Among them, 30 (96.8%) had a subsequent relapse, of which 22(73.3%) were treated with chemotherapy while the remaining 8(26.7%) underwent further radiotherapy or thermoablation. The median interval between radiotherapy and the subsequent recurrence requiring chemotherapy was 16 months (range 4–126), with 18(58.1%) patients having a subsequent recurrence requiring chemotherapy after 12 months or more. Upon univariate analysis, median platinum-free interval before radiotherapy in patients with complete/partial response was longer than in patients with progressive disease (23 vs. 11 months, p=0.06), although the association did not meet the conventional level of statistical significance.

Conclusion In our experience, radiotherapy alone represents a valuable option in the treatment of 1st oligometastatic platinum-sensitive recurrent epithelial OC, providing a good response rate and allowing to extend the platinum-free interval. Further studies are required to confirm our results and identify predictors of treatment response.