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### PREDICTIVE VALUE OF 18F-FDG ACCUMULATION IN VISCERAL FAT ACTIVITY TO DETECT EPITHELIAL OVARIAN CANCER METASTASES

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**Introduction/Background** Epithelial ovarian cancer (EOC) is the most lethal gynecological malignancy, with relapse occurring in about 70% of advanced cases with poor prognosis. The aim of the study was to evaluate functional visceral fat activity (VAT) evaluated by 18F- fluorodeoxyglucose (18F-FDG) positron emission tomography/computed tomography (PET/CT) as a predictor of metastases in EOC.

**Methodology** We enrolled study protocols and PET/CT data of 398 CRC patients; 345 patients were subsequently excluded for various reasons. The remaining 53 patients with histologically confirmed adenocarcinoma, carcinoma and cystadenocarcinoma were then prospectively assessed and underwent <sup>18</sup>F-FDG PET/CT after a surgical treatment and chemotherapy. Age, histology, stage, and tumor grade were recorded. Functional VAT activity was measured by maximum standardized uptake value (SUVmax) using 18F-FDG PET/CT and tested as a predictor of later metastases in eight abdominal locations (RE – Epigastric Region, RLH – Left Hypochondriac Region, RRL – Right Lumbar Region, RU – Umbilical Region, RLL – Left Lumbar Region, RRI – Right Inguinal Region, RP – Hypogastric (Pubic) Region, RLI – Left Inguinal Region) and pelvic cavity (P) in the adjusted regression models. We also identified the best areas under the curve (AUC) for SUVmax with the corresponding sensitivity (Se) and specificity (Sp).

**Results** In both adjusted for regression models and ROC analysis, 18F-FDG accumulation in RE (cut-off SUVmax 1.18; Se 64%; Sp 64%; AUC 0.669; p = 0.035) could predict later metastases in EOC patients, as opposed to age, sex, primary tumor location, tumor grade, and histology.

**Conclusion** Functional VAT SUVmax is significantly associated with later metastases in EOC patients and can be used as their predictor.

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### TEN STEPS ROBOTIC INTENSIVE STAGING FOR EARLY-STAGE OVARIAN CANCER

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**Introduction/Background** One-third of the patients with ovarian cancer (OC) is diagnosed with FIGO stage I-II, and their five-year survival is up to 90% [1,2]. Adequate treatment of early ovarian cancer (EOC) depends on the correct stage of

the patient [3,4]. The feasibility and safety of minimally invasive surgery (MIS) for EOC is known and can be offered to selected patients [5]. No relevant differences between robotic and laparoscopic approaches for EOC staging are described in Literature [6].

**Methodology** We report the case of a 54 years-old patient diagnosed with an 81 mm adnexal mass. DaVinci robotic system was used to perform surgery with four 8 mm trocars along the transverse umbilical line, and 10 mm trocar in Palmer's point. The instruments we used were ProGrasp Forceps, fenestrated bipolar, and monopolar curved scissors. Here we aim to standardize the robotic technique for EOC staging in ten steps.

**Results** We have identified ten key steps to perform this procedure safely and effectively: Access to pelvic retroperitoneum; Identification of the ureter with development of pararectal and paravesical spaces; Closure of the uterine artery and section of ovarian pedicles and mobilization of adnexal mass with no-touch isolation technique; Development of rectovaginal and vesico-vaginal septum; Endobag extraction of surgical specimen; Access to lumbo-aortic retroperitoneum; Infiltration of the ovarian pedicle with indocyanine green then visualization and dissection of sentinel lymph node (LN); dissection of paracaval LN; dissection of inframesenteric LN; dissection of supramesenteric LN. Surgical time was 180 min and blood loss was 100cc without intraoperative complications. The patient was discharged on the 4th postoperative day without complications. Histology revealed a FIGO Stage IIA G3 serous endometrioid ovarian carcinoma.

**Conclusion** Robotic staging of EOC in ten steps is a safe and feasible technique that must be performed by an experienced oncological surgeon in referral centers.

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### CYSTIC MALIGNANT TERATOMA IN A 33-YEAR-OLD WOMAN: A CASE REPORT

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**Introduction/Background** Cystic teratoma is the most common ovarian neoplasm but the malignant form is very rare and it accounts for 1%. It consists of well-differentiated derivatives of germ cell layers (i.e., ectoderm, mesoderm, and endoderm) developing as hair, muscle, teeth, or bone.

**Methodology** 33-years old woman was admitted to our hospital because she noticed that her stomach had grown. She had occasional abdominal pain and constipation for several years. We did a detailed gynecological examination. Ultrasound examination with an abdominal probe showed that it was a tumor 15 cm in diameter, which consisted partly of hyper, partly hypoechoic content. The other blood parameters were within normal limits. Tumor marker Ca 125 was within normal limits as CEA, but the value of alpha-fetoproteins was elevated.

**Results** We decided to do a laparotomy and removed the tumor completely. We checked other internal genitals organs

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?

**2022-RA-1014-ESGO** **INCIDENCE OF PELVIC HIGH-GRADE 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 (AEOC) 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 key 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.

**2022-RA-1028-ESGO** **ROLE OF RADIOTHERAPY IN PLATINUM SENSITIVE OLIGOMETASTATIC RECURRENT OVARIAN CANCER: A VALID ALTERNATIVE TO DELAY SYSTEMIC TREATMENT**

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