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Abstracts

combined DNA and RNA sequencing panel showed a rare STRN3-NTRK3 fusion; no MDM2 amplification was found at FISH. The same profile was documented on the primary tumour, leading to the diagnosis of splenic metastasis by UUS.
Conclusion: UUSs cover morphologically different neoplasms, whose molecular hallmarks keep unfolding thanks to modern sequencing techniques. We describe the first splenic metastasis by an STRN3-NTRK3 fused UUS, whose localization has never been accustomed to pure uterine sarcomas yet. Because the STRN3-NTRK3 fusion is identifiable in rare uterine sarcomas, when a history is on record, a proper panel including pan-TRK and NTRK gene analysis should be performed for its suitability in using targeted therapy with NTRK inhibitors in advanced disease.

E-PS-10-068
HER2 overexpression in uterine serous carcinoma in a tertiary referral centre: a 5 year review
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Background & objectives: Uterine serous carcinoma is an aggressive endometrial carcinoma subtype with high recurrence rates. Some cases will be HER2 amplified, a target for novel therapies. We analysed cases from our institution for HER2 amplification rates and correlated with disease stage.
Methods: We retrieved from our institution's database all histopathology specimens from the female genital tract that underwent HER2 amplification testing over a five year period (2018 to 2023). All available pathology reports were reviewed and clinical stage, metastatic spread and HER2 amplification status were documented. All cases other than uterine serous carcinoma were excluded from analysis.
Results: 18 cases of uterine serous carcinoma were identified, 12 of which were resection specimens, allowing for accurate clinical staging as per the TNM Classification of Malignant Tumours, 8th Edition. 50% of cases were found to be HER2 amplified, either by immunohistochemistry (IHC) or fluorescent in-situ-hybridisation (FISH). 8 cases were stage T1, 1 was T2 and 3 were T3. We performed Fisher's Exact Tests and found no significant correlation between pathologic stage including metastatic spread and HER2 amplification status.
Conclusion: We did not demonstrate a significant link between HER2 overexpression and clinical stage, nor did we demonstrate a link between HER2 expression and metastatic spread. We did however note that over 50% of cases of uterine serous carcinoma in our institution were HER2 overexpressed which is higher than rates reported in the literature (30-35%). This finding emphasises the importance of assessment of HER2 in all uterine serous carcinomas.

E-PS-10-069
Fumarate hydratase deficiency in uterine leiomyomas: a case report
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Background & objectives: Leiomyomas are the most common benign uterine tumours derived from smooth muscle. They occur more often in the fifth decade and they commonly cause abnormal uterine bleeding and dysmenorrhea in reproductive-age women. Around 90% of leiomyomas are of conventional type.
Methods: In 2021 a 20-year-old woman was diagnosed with a leiomyoma with intense vascularization of dubious nature. In 2022 the leiomyoma was increased by about 2 cm and the patient had persistent uterine bleeding refractory to medical therapy. Therefore, she performed a laparoscopic myomectomy. The first histological examination was of a smooth muscle tumours of uncertain malignant potential (STUMP).
Results: However, in consideration of the young age of the patient and of the maternal medical history - the patient's mother performed a hysterectomy at the age of 36, after myomectomy, with histological diagnosis of "leiomyomas with increased borderline cellularity" - the case was re-evaluated and a hypothesis of Fumarate Hydratase (FH) Deficiency was taken into account. Therefore, an additional immunohistochemical investigation was performed. In all sections examined, the tumour had the following immunohistochemical profile: FH -. This result led to the final diagnosis of a uterine leiomyoma with fumarate hydratase deficiency. Then, genomic testing was performed revealing a pathogenic germline mutation of the FH gene.
Conclusion: Patients with germline mutations in the fumarate hydratase gene will more likely develop uterine leiomyomas presenting prominent nucleoli and nuclear atypia. Usually, the patients affected are around 30 years old and the uterine tumour often represents a "sentinel" event that precedes the development of a renal cell carcinoma. The diagnosis of leiomyomas with a FH deficiency at a younger age than the development of renal carcinoma presents a great opportunity for early diagnosis, early intervention and early oncological follow-up.

E-PS-10-070
Membranous dysmenorrhea in a patient with Turner's syndrome: a case report
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Background & objectives: Patients with Turner's syndrome usually have low levels of estrogen and progesterone. However, although most patients are diagnosed with primary amenorrhea, some women can spontaneously present with pubertal development and with menarche at 11 to 15 years of age.
Methods: We present a case of a 15-year-old girl with known history of mosaic type Turner's syndrome, who was admitted to the hospital with complaints of severe abdominal pain. An ultrasound was performed, which showed a mass in the uterine cavity. Later, the mass was expelled spontaneously and the abdominal pain subsided. The mass was then sent for histologic examination.
Results: The macroscopic examination showed a large tumour measuring 6.5 x 5.2 x 4.5 cm. Histologic examination showed abundant ill-defined solid areas of spindled-like cell proliferation with abundant eosinophilic cytoplasm and with multiple areas of decidual-like changes with no evidence of chorionic villi. Mitotic activity was infrequent. Based on radiological data, as well as the size of the mass and routine H&E examination immunohistochemical analysis was then carried out to exclude mesenchymal tumours, which showed positive staining of desmin only. SMA, ERG, ALK, HCG, PLAP and p16 stainings were also performed. Together with clinical and pathological correlation a diagnosis of membranous dysmenorrhea was concluded.
Conclusion: Membranous dysmenorrhea is a rare gynaecologic disorder with only a few cases documented. It occurs as a result of a sudden and complete detachment of the decidua during menstruation. Considering that women with Turner's syndrome suffer with abnormal menstrual cycles it islikely that the risk of developing membranous dysmenorrheais higher. Its pathophysiology seems to be related to the estrogen-progesterone imbalance but it is still yet to be understood.

E-PS-10-071
HPV positive cervical squamous cell carcinomas: association with expression of p16, p53 and Ki67
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Background & objectives: Cervical cancer is the fourth most common malignancy in females. Majority of cervical carcinomas (CC) are associated with HPV infection. The aim of this study was to investigate association between morphological features and p16, p53, Ki-67 expression in HPV-positive CCs.
Methods: Biopsy and electroconization histological material of patients (n=75) with primary cervical squamous cell carcinoma diagnosed in 2016-2024 were evaluated histologically, and immunohistochemically for expression of p16, p53 and Ki-67 using Flex kits and Autostainer Link-instrument (Dako) with visualization on Eclipse 55i (Nikon). All were positive for at least one of high-risk HPVs, mainly HPV16 (Anyplex 14, Seegene).
Results: Median age of patients was 49 years (from 23 to 96). Grade 1 carcinomas were diagnosed in 5 (6,6%), Grade 2 in 44 (58,6%), Grade 3 in 26 patients (34,6%). Of 75, 66 (88%) were p16-positive, majority (40; 60,6%) were Grade 2 tumours. Of p16-negative tumours, five were Grade 1 (6,6%), four Grade 2 (5,3%). Interestingly, 8/9 of p16(-)-tumours were positive for HPV16, five with medium, and three, with low virus load. Only four cases (Grade 3) were positive for p53; interestingly, all were HPV16 DNA and p16 positive. Median Ki-67 value was 40% (from 2 to 92). Difference between p16(+) and p16(-) cases (42% and 38%, respectively) was insignificant.
Conclusion: Most of HPV-associated CC cases were p53-negative for p53 , reflecting proteasomal degradation of p53 mediated by E6, with few exceptions. Expression of p16 and Ki-67 varied depending on the tumour grade. High grade tumours were positive for both p16 and Ki-67 which implies diagnostic value of combined p16 and Ki-67 staining in diagnostics of cervical carcinomas. Jointly, these markers represent useful tool for histochemical grading of cervical cancer.
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E-PS-10-072
Carcinosarcoma of the uterus in a 76-year old woman: a case report on a rare and aggressive disease
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Background & objectives: Uterine Carcinosarcoma is a rare entity, accounting for <5% of all uterine malignant tumours, comprising both a carcinomatous and a sarcomatous component. It usually presents with pain and bleeding and has a poor prognosis.
Methods: Here we report the case of a 76-year old woman who presented with abundant vaginal bleeding. Ultrasound imaging showed a large nodular lesion in the uterus. She was therefore submitted to total hysterectomy and bilateral salpingo-oophorectomy.
Results: The surgical specimen was an 878g uterus with 18x12x12cm and a cervix with 5x5x5cm. An endometrial vegetating lesion with 5x3x3cm largest diameters was observed, extending through the uterine endocervix and reaching the external cervical orifice. Other polypoid endometrial lesions were also present. The histological analysis revealed a high-grade Carcinosarcoma of the uterine body and cervix with a serous carcinoma component and undifferentiated mesenchymal sarcoma component. Fallopian tubes and ovaries were unremarkable. Metastases were found in 3 out of the 9 pelvic lymph nodes submitted. Cytological analysis of the peritoneal fluid did not show neoplastic cells. The NGS analysis revealed a TP53 p.S241F pathogenic variant with 68% allelic frequency.
Conclusion: This case highlights the main features of the rare uterine Carcinosarcoma, which normally occurs in postmenopausal patients and has a dismal prognosis. Adjuvant chemotherapy with carboplatin and paclitaxel was initiated only a few weeks after surgery due to post-surgical complications. The tumour has locally relapsed in the vaginal dome and metastases were found in the urinary bladder, left ureter and lung. Nearly two years following the initial diagnosis, the patient passed away.

E-PS-10-073
Evaluation of the pathological response of ovarian serous carcinoma to neoadjuvant chemotherapy: a case series
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Background & objectives: Neoadjuvant chemotherapy (NACT) is considered for patients with advanced-stage ovarian serous carcinoma (OSC) who are not ideal candidates for primary debulking surgery. This study aims to identify the pathological response patterns of OSC to NACT.
Methods: An 8-year retrospective analysis was conducted during the period between 2016 and 2024 at Farhat Hached Hospital's pathology department in Sousse. We identified 15 patients who were diagnosed with OSC based on pathological confirmation from biopsy specimens and who have received NACT followed by total hysterectomy and bilateral salpingo-oophorectomy, with or without omentectomy, appendicectomy, and lymph node dissection.
Results: The mean age was 60.33 years with extremes ranging from 35 to 88. The tumour was bilateral in 13 cases and unilateral in 2 cases. Eleven patients had ovarian gross disease, while 4 had only microscopic disease. Microscopically, 6 cases showed fibrous-hyalin remodeling, while only 5 cases showed necrosis which was focal in 2 cases and extensive in 3 cases. Only 1case showed edematous changes while haemorrhagic changes were found in 2cases. Dense polymorphic inflammatory elements were found in 4 cases. The pathological response grade was CRG3 in 4 cases including 2 cases with a complete response, CRG2 in 6 cases, and CRG1 in 5 cases.
Conclusion: After NACT morphological changes encompass tumour size, cellularity, fibrous-hyalinization, myxoid, edematous remodeling, hemosiderin deposits, microcalcifications, fingerprints of cholesterol crystals, and variable density of polymorphic inflammatory elements. OSC's response to NACT follows a specific pattern that warrants prospective evaluation and prognostic prediction. The microscopic residual disease is seen in 'normal-looking' areas of the ovary as well as metastasis following NACT. Thus, the macroscopic inspection is inaccurate in determining the response to chemotherapy, and a large sampling is required.

E-PS-10-074
New model of immune-mediated model of preeclampsia - experimental research
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Background & objectives: Based on the well-known model of miscarriage ♀CBA×♂DBA/2, we developed a new preeclampsia model. The bacterial component muramyl dipeptide(C7MDP) stimulated the production of proinflammatory cytokines. Abnormal placental implantation and oxidative stress may play a key role in intrauterine growth retardation(IUGR).
Methods: The aim evaluate the effect of consuming alpha-lipoic acid during pregnancy on the length and weight of the foetuses. The combination of mouse strains ♀CBA×♂DBA/2 was used. On gestation days (GD) 5 and 7, C7MDP was administered intraperitoneally at a dose 1 mg/kg. Morphofunctional studies of the placenta were carried out on 8 and 14 GD.
Results: After birth, the length and weight of the foetuses were estimated. In the placenta with experimental PE model, thinning and disorganization of the layer of giant cells, and in the spongiotrophoblast