targeted therapies, TNBC is associated with high morbidity and mortality. Therefore, for several years, neoadjuvant chemotherapy has been the mainstay of treatment.

Methodology Our work consists of a retrospective study carried out at the Hassan 2 University Hospital of Fez, between January 2016 and December 2021, involving 24 cases of triple-negative breast cancer that had undergone surgical treatment.

Results The results show a predominance of breast cancer in patients aged over 35 years and still in genital activity. Invasive ductal carcinoma is the most predominant type representing 90% of cases with an initial inflammatory aspect in 10 patients. Histopronostic grades II and III represent each 47.8% of cases. In addition, a proliferation rate (ki67%) was high in more than 70% of patients. Neoadjuvant chemotherapy was prescribed in 19 patients and the time between surgery and the last chemotherapy treatment was less than 6 weeks in 74% of cases.Radical surgery (Patey) was performed in 18 patients, while only 3 patients received conservative treatment. Despite the fact that all our patients received adjuvant treatment with radiotherapy and chemotherapy, the 3-year survival rate was 53%.

Conclusion Although advances in treatment and the advent of targeted therapies, breast cancer remains the leading cause of death. Current clinical and histological classifications do not fully establish prognostic and predictive parameters for treatment response.

2022-RA-1479-ESGO SEX HORMONE RECEPTOR EXPRESSION, MSH2 AND MSH6 LOSS, BUT NOT β-CATENIN NUCLEAR TRANSLOCATION, IS CONCORDANT BETWEEN SYNCHRONOUS ENDOMETRIAL AND OVARIAN CARCINOMAS

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Introduction/Background Synchronous endometrial and ovarian carcinoma (SEOC) accounts for 10% of ovarian and 5% of endometrial cancers. SEOC tumours are staged separately but most demonstrate clonality. The ProMisE algorithm classifies endometrial carcinomas into p53 aberrant, mismatch repair deficient (MMRd), *POLE* mutant tumours and tumours of no specific molecular profile, up to ½ of which are *CTNNB1* mutant (*CTNNB1*mut).

Methodology Formalin-fixed paraffin-embedded (FFPE) tissue was obtained from 34 patients with SEOC for haematoxylin and eosin (H&E) review, and immunohistochemistry (IHC). Progesterone receptor (PR) and estrogen receptor (ER) expression was scored between 0–300. Tumours were assessed for MMRd via MLH1, MSH2, MSH6 and PMS2 staining, and for presence of nuclear β-catenin (a surrogate marker of *CTNNB1*mut).

Results Tumours were of endometrioid (55/68, 80.9%), clear cell (4/68, 5.9%) and mixed endometrioid/clear cell (9/68, 13.2%) histology, and almost all were p53 wildtype (67/68). Neither ER **(p = 0.15)** nor PR (p = 0.98) expression was statistically significantly different between paired tumours. 9 of 34 cases were MMRd (26.5%); 4 and 2 cases had MSH2/MSH6 loss and MSH6 loss respectively, and this was conserved between the paired endometrial and ovarian tumours. 16 of 34 cases (47.1%) exhibited nuclear β-catenin staining of which only 6 had conserved presence of nuclear staining between tumour sites.

Conclusion ER and PR expression, MSH2 and MSH6 loss, but not nuclear β-catenin, is concordant between paired SEOC tumours, suggesting that β-catenin function may differ between endometrial and ovarian carcinomas, even in the synchronous context. Conserved loss of MSH2 and/or MSH6 between paired tumours in a subset of cases suggests underlying Lynch syndrome. Whole exome sequencing is underway to investigate the mutational landscapes of tumours, including the mutation status of MMR genes and *CTNNB1*.

2022-RA-1576-ESGO DEEP-LEARNING-BASED ENDOMETRIAL SEGMENTATION AND AUTOMATED IMMUNE PROFILING FROM HISTOPATHOLOGICAL WHOLE SLIDE IMAGES

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Introduction/Background The rapid spread of the whole slide images (WSI) combined with deep learning models can shift the qualitative approach in pathology to the quantitative one providing evenly qualitative reports worldwide. The work aimed to explore the potential computed assisted diagnostics by automated subtyping endometrial lesions with further immunohistochemical (IHC) profiling of the malignant ones, as endometrium makes a significant part of pathologists' practice.

Methodology 721 endometrial samples for the deep learning model development and verification from the East Tallinn Central Hospital. The samples were reviewed and annotated by two pathologists and randomly divided into training and validation (271) groups; the training dataset was generated using Pathadin software. The EfficientNet-B5-based model was created as a four-class classifier (normal endometrium, hyperplasia without atypia, atypical hyperplasia, malignancy). In samples with malignancy, computer vision next detected the corresponding region on the IHC (ER, PR, p53, Her2) stained glasses and quantified it using pre-trained DeepLiif solution. DeeLiif was trained on the control samples provided with all the IHC glasses.

Results The model is the first four-type classifier for histopathological WSI classification of endometrial lesions. Tested on 271 slides from a single medical center cohort, an AUC of 0.882 was achieved, mainly failing to distinguish between atypical hyperplasia and G1 endometrioid carcinoma. For IHC, total accuracy of 0.865 was achieved, primarily failing to analyze the membranous staining of Her2.

Conclusion The algorithms successfully classified the samples and detected and analyzed the corresponding area on the IHC stained glasses, proving the concept that with proper validation and under the control of a pathologist can already be covering a part of daily routine. For further improvement, samples from different hospitals should be harvested, a model with precise diagnoses should be created, and the spatial shifting in the series of sections should be resolved.