Result(s)* A total of 28 individuals had undergone a TV or TA guided biopsy; 10 TV and 18 TA respectively, therefore these individuals were the focus of this study.

TV achieved a 100% success rate (10/10) in obtaining a sample adequate for histological analysis, compared to TA which had a success rate of 89% (16/18).

9/10 samples obtained via TV route achieved a definitive histological diagnosis whereas 15/18 samples obtained via TA route achieved a definitive histological diagnosis.

3 TA guided biopsy's had to be repeated for differing reasons, compared to TV guided biopsy's which required no repeat sampling.

3 complications as a result of a biopsy were identified; in all cases this was bleeding. There was no clear association with bleeding and: size of needle used to obtain the biopsy, age of individual or method of biopsy.

Conclusion* TV guided biopsies were considerably more efficient, conclusive and representative of the clinical picture in obtaining a biopsy adequate for histological analysis, hence the reduced need for repeat biopsies.

Biopsies obtained via TV route were more successful at obtaining a definitive histological diagnosis compared to TA.

Bleeding was identified as the most common risk of a TV or TA guided biopsy but no confounding factors were found to correlate with this risk.

954

A MACHINE LEARNING APPROACH APPLIED TO GYNECOLOGICAL ULTRASOUND TO PREDICT PROGRESSION-FREE SURVIVAL IN OVARIAN CANCER PATIENTS

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10.1136/ijgc-2021-ESGO.107

Introduction/Background* Ultrasound(US) is a cheap, non-invasive and well-recognized image modality for diagnosing and assessing ovarian cancer(OC). However, approximately 18% to 31% of adnexal lesions detected on US remain indeterminate. Machine learning(ML) is a promising tool for the implementation of complex multi-parametric algorithms. Despite the standardization of features capable of supporting the discrimination of ovarian masses into benign and malignant, there is the lack of accurate predictive modeling based on US examination for progression-free survival (PFS).

Methodology In this retrospective observational study, we analyzed patients with epithelial ovarian cancer(EOC) who were followed in a tertiary center from 2018 to 2019. Demographic, clinical and laboratory characteristics were collected as well as information about post-surgery histopathology. Furthermore, we recorded data about US examinations according to International Ovarian Tumor Analysis(IOTA) classification. Proper feature selection was used to determine an attribute core set. Random Forest(RFF) algorithm was trained and validated with 10-fold cross-validation to predict 12-month PFS. The accuracy of the algorithm was then assessed scoring accuracy and Area Under Receiver Operating Characteristic (AUROC).

Result(s)* Our analysis included n.32OC patients with mean age of 54.1 ± 14.9 years at diagnosis. Histotypes were n.19/32

Abstract 954 Figure 1 Feature importance of the attribute coresets

(59.4%) serous carcinoma, n.5/32(15.6%) mucinous, n.5/32 (15.6%) endometriod and n.3/32(9.4%) clear cell. All patients underwent radical surgery. The attribute core set used to train machine learning algorithms is reported in figure 1. RFF showed an accuracy of 0.81, AUROC 0.91.

Conclusion* We developed an accurate model to predict 12-month PFS in patients with OC based on a ML algorithm applied to gynecological ultrasound evaluation, requiring few easy-to-collect attributes.

1069

CAN SERUM HUMAN EPIDIDYMIS PROTEIN 4 (HE4) SUPPORT THE DECISION TO REFER A PATIENT WITH A PELVIC MASS TO AN ONCOLOGY CENTER?

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10.1136/ijgc-2021-ESGO.108

Introduction/Background* Human epididymis protein (HE)4 has been shown to have a higher specificity than Cancer Antigen (CA) 125 in detecting ovarian cancer (OC). However, almost all studies are performed in oncology centers. As the prevalence of OC influences performance of predictive biomarkers, it is still unclear whether HE4 can be used to support referral decisions in general hospitals. We assessed the accuracy of HE4 with or without Risk of Malignancy Index (RMI) in differentiating benign from malignancy in patients with a pelvic mass from general hospitals.