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460 DIFFUSE LARGE B-CELL LYMPHOMA OF THE OVARY: A SERIES OF FOUR CASES

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Introduction Diffuse large B-cell lymphoma (DLBCL) of the ovary is a very rare condition. Surgery is often mandatory to establish the diagnosis which is based on the histologic examination and immunohistochemistry testes. Treatment is based on chemotherapy.

Methods We report a series of four cases treated in Salah Azaiz Institute of Oncology, Tunis, Tunisia, from 2001 to 2019.

Results The average age was 49 (from 34 to 67 years old). The abdominal symptoms consisted of pelvic pain and swollen abdomen. CA-125 was high in one case. The average radiological size of the ovarian mass measured with CT scan was 141 mm (from 50 to 200 mm). Pleural effusion, mediastinal, axillary and supraclavicular lymphadenopathies was found in one case. Per-operative findings showed ascites in one case and unilateral ovarian mass in three cases. One case showed an invasion of the uterus requiring a hysterectomy. For another patient, the tumor invaded the small intestine therefore she underwent an additional small bowel resection. The average histological size of the tumor was 92,5 mm. CD 20 and Bcl-2 were expressed in all cases and the Ki67 was higher than 50% in all cases. Two patients had R-CHOP chemotherapy and are in total remission; the two others are lost to follow-up.

Conclusion Ovarian DLBCL mimics usually both clinically and radiologically an ovarian epithelial tumor. Surgery remains the only way to establish the diagnosis and guide the treatment.

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462 PREDICTIVE RADIOGENOMIC MODEL BASED ON OVARIAN ULTRASOUND IMAGES TO DETECT GERMLINE BRCA 1-2 STATUS (PROBE STUDY) A RADIOGENOMIC MODEL ON US IMAGES

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Objectives To evaluate feasibility and performance of a radiogenomics model based on ovarian US images predicting germline BRCA1/2 gene status.

Methods This retrospective study included 255 patients who were addressed to germline BRCA1/2 testing and pelvic US documenting normal ovaries. Four imaging feature groups were extracted from each normalized US image with manually segmented regions of interest. Feature selection for univariate analysis was carried out via correlation analysis.

Multivariable analysis for classification of germline BRCA1/2 status was then carried out via logistic regression, support vector machine, ensemble of decision trees and automated machine learning pipelines. Data were split into a training (75%) and a testing (25%) set.

The performance of the models was assessed with respect to negative and positive capability to predict germline BRCA1/2 status and compared with NGS data.

Results The four strategies obtained a similar performance in terms of accuracy on the testing set, varying from 0.54 of logistic regression to 0.64 of the auto-machine learning pipeline. The latter showed also the highest value of specificity on the testing set (0.91) and a negative predictive value of 0.65. Data coming only from the Voluson US machine showed generally higher performances, particularly with the auto-machine learning pipeline (testing set specificity 0.87, negative predictive value 0.73, accuracy value 0.72 and 0.79 on training set).

Conclusions The study shows that a radiogenomics-based model on machine learning techniques is feasible when applied to US images. Future investigations are warranted to make it a reliable screening tool for gBRCA1/2 status.

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463 LVSI AND KI67 IN PREDICTION OF LYMPH-NODE METASTASIS IN PRIMARY LOW-GRADE OVARIAN CANCER

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Objective Low-grade serous ovarian cancers (LGSOC) characterize less frequent incidence of lymph-nodes (LN) metastasis. Ki67 expression level is associated with prognosis and therapy outcome differences. Its' expression in combination with lympho-vascular space invasion (LVSI) have not been evaluated in prediction of LN involvement yet.

Methods Patients with LGSOC were identified in institutional database. Receiver-operator characteristics (ROC) curve analysis was performed to find cut off values of Ki67% to discriminate patients with LN metastasis. The association between LVSI presence and LN involvement was performed.

Results A total of 109 patients treated between 2000 and 2018 with primary LGSOC were identified in our institution database. Complete data of Ki67 expression and LVSI in patients who underwent lymph node dissection was obtained in 61 (84.7%) of those patients. Presence of LVSI was associated with higher risk of lymph-nodes metastases in univariate und multivariate analysis ($p < 0.001$ and $p = 0.01$ respectively). Ki67$\geq$6% was associated with higher risk of LVSI presence ($p = 0.017$). No significant correlation between Ki67 expression level and nodal metastases was found ($p = 0.145$). Neither presence of LVSI, nor nodal metastases were associated with prognosis differences.

Conclusions It is the first study showing association between LVSI presence, Ki67 expression and risk of lymph-node