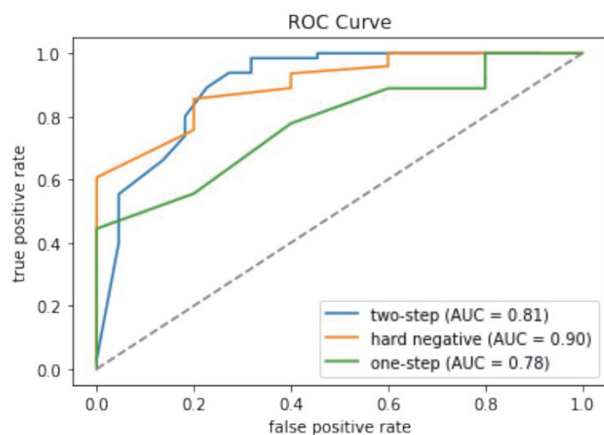
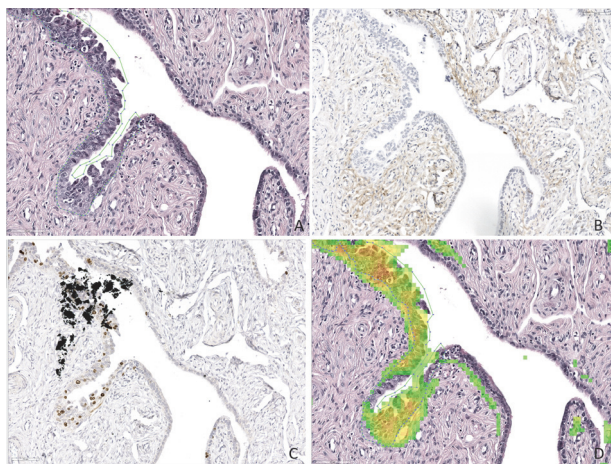


grade serous carcinoma (HGSC) in patients with a BRCA1/2 pathogenic variant (PV), but results in significant short and long-term health risks. New interventions, such as risk-reducing salpingectomy with delayed oophorectomy are promising. In this alternative approach, the detection of serous tubal intraepithelial carcinoma (STIC) as precursor to HGSC, has become more important. The detection of STIC indicates an increased risk for HGSC and would prompt for an immediate oophorectomy. Unfortunately, reproducibility of STIC diagnosis is only moderate, even among experienced gynecological pathologists. The aim of this pilot study is to develop and validate an AI algorithm for automated detection of potential STIC lesions in scanned H&E slides, to aid the pathologist in diagnosing STIC

Methodology We collected and digitalised 60 cases of STIC and 65 control cases. STIC diagnosis was confirmed using p53 and Ki-67 immunohistochemical stainings (IHC). The dataset was split into 50 cases for training, five for validation and five for testing. We developed a Convolutional Neural Network and compared two approaches: directly detecting STIC (one-step) or first detecting all epithelium and subsequently detecting STIC within epithelial regions (two-step). Additionally, we evaluated whether we could improve the network by enriching the training data with hard negative examples.



Abstract 1009 Figure 1



Abstract 1009 Figure 2

Result(s)* We found that the optimal configuration for detection of STIC was the two-step approach, with training set enrichment by hard negatives. This network reached an area under the receiver operating curve of 0.90 (figure 1). Visual inspection of cases in the test set showed concordance between the model output, p53 and Ki67 IHC, and pathologists' annotations (see example model output on H&E stained tissue in figure 2).

Conclusion* We present a convolutional neural network that can successfully detect STIC lesions in whole slide images. AI has the potential to aid the pathologist in the detection of STIC and assist in producing more accurate and consistent diagnosis. Additional performance and robustness is expected to be achieved by expansion of the dataset.

1029 UNUSUALLY BREAST METASTASES

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Introduction/Background* The breast is the most common site of primary malignancies in adult women, but is an uncommon site for metastasis from extramammary malignancies. Breast metastases from extramammary malignancies have both haematogenous and lymphatic routes. We report 10 cases of breast metastases in our pathology lab between 2014 and 2020.

Methodology We have identified all the cases of breast metastases diagnosed between 2014 and 2020.

Result(s)* We found 10 cases of breast metastases from extramammary malignancies. All patients were female with a middle age of 42 years. The primary malignancies were a melanoma in 3 cases, an ovarian carcinoma also in 3 cases, a fibrosarcoma, a rhabdomyosarcoma and a nasopharyngeal carcinoma in 1 case each. The diagnosis was based on morphological features but also on immunohistochemistry especially with the ovarian carcinoma which exhibits some similar features to a primary breast carcinoma.

Conclusion* Breast metastases from extramammary malignancies show variable histological features. Therefore, the possibility of metastatic lesion should be considered in evaluating breast lesions in patients with primary malignancy in other organs. Awareness of typical and atypical imaging features of such lesions may be helpful to diagnose metastatic lesions in the breast.

1111 ATYPICAL (C3) AND SUSPICIOUS (C4) CATEGORIES IN BREAST FINE NEEDLE ASPIRATION

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Introduction/Background* The present study was carried out over a 1-year period (January 2017-December 2017) and conducted at the cytology unit of Pathology Department (Salah Azaiez

Institute, Tunisia). It included all patients with breast lesion referred to our unit. Smears were fixed and stained by May Grünwald Giemsa. Cytology results were categorized according to the NCI by two cytopathologists independently.

Methodology The present study was carried out over a 1-year period (January 2017-December 2017) and conducted at the cytology unit of Pathology Department (Salah Azaiez Institute, Tunisia). It included all patients with breast lesion referred to our unit. Smears were fixed and stained by May Grünwald Giemsa. Cytology results were categorized according to the NCI by two cytopathologists independently.

Result(s)* FNAC interpretive categorization was as follows: 188 (31,3%) inadequate (C1), 378 (63%) benign (C2), 1 (0,16%) atypical, probably benign (C3), 31 (5,14%) suspicious of malignancy (C4) and 2 (0,4%) malignant (C5). The histopathological examination of category C3 showed a benign lesion. Histopathological examination of category C4 was assessed only for 20 patients. 14/20 cases showed benign lesions, in one case an in-situ carcinoma was diagnosed and 5/20 cases showed malignancy. The positive predictive value of C4 category in the diagnosis of malignancy was 30%.

Conclusion* FNA is a safe and cost-effective technique for the diagnosis of breast lesions, especially when correlated with clinical and imaging studies. It has achieved great importance in diagnosis and management of palpable breast lesions. However, we must be aware of possibility of “false positive” and “false negative” results especially for categories C3 and C4.

1150 IMPACT OF QUALITY CONTROL PROCEDURE IN THE MANAGEMENT OF BREAST BIOPSY

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Introduction/Background* Breast cancer is the first women cancer. For adequate treatment we should have a relevant diagnosis based on morphology and immunohistochemistry (IHC). In our national institute of oncology the deadlines of pathology report are very long because of the significant number of samples received from different department. We have established a specific protocol to manage breast biopsy to speed up the histological report. We would represent in this paper the evaluation of the implantation of this support protocol in our lab.

Methodology In the new procedure of our lab the breast biopsy was separately treated from other routine samples. They were treated in cassette of different color. Two technicians were specially dedicated to manage all the technical steps. In our laboratory we received both surgical and radiological biopsies. Both go under the same technical protocol. They are fixed with formalin then they go through the preanalytical procedures the same day. To evaluate the impact of the implementation of this procedure, we compare the report output deadline of biopsy received between January and February 2018 with those received the same period in 2020 after the implementation of the protocol.

Result(s)* In 2018, the deadlines of issuing the final report were on average 21.5 days while in 2020 after implementation of the protocol, the deadlines of issuing passed to 11.75 days. The deadlines stay long because of many other issues like long absence of patients especially for socio-economic reasons.

For us in the laboratory we can guarantee a primary report based on morphological features within 2 days after receiving the biopsy. The final report with IHC report can be ready in maximum 6 days after receiving the sample. In fact it depends on the rhythm of the IHC technique which is programmed minimum twice per week.

Conclusion* Pathology report is the key of all therapeutic issues in breast cancer. For a best supported therapy for our patients we accelerate the procedure of biopsy management while keeping a good quality of study. Our ultimate goal is to provide the most specific diagnosis as soon as possible to procure the best therapy for patients.

1151 UPDATE ON TRIPLE-NEGATIVE BREAST CANCER: THE GOOD PROGNOSIS

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Introduction/Background* Triple-negative breast cancer (TNBC) represents a consistent subgroup of breast cancers with heterogeneous clinical presentation, clinical behavior, histology, and response to therapy. Awareness of TNBC was recently increased by the discovery of the intrinsic molecular subtypes in breast cancers with gene expression profiling experiments. At least five molecular categories have been repeatedly identified in breast cancer, each with prognostic significance.

Methodology We retrospectively reported 18 cases of triple-negative cancer treated at Salah Azaiez Institute Tunisia between 2016 and 2021, including 3 cases of CAK (adenoid cystic carcinoma), 10 cases of CI-TNS-CM (medullary carcinoma) and 5 cases of CA (apocrine carcinoma).

Result(s)* The average age was 68 years. The mean tumor size was 37 mm. In 15/18 cases the tumors were grade III SBR modified. Lymphatic emboli were observed in 4 cases/18. The Ki67 was on average 57%. Metastatic lymph nodes were identified in 4 cases out of 14 having had axillary dissection.

Conclusion* The prognostic value of classical pathological variables such as tumor grade, lymph node status, and tumor size, could be impaired in TNBC. Indeed, most TNBC are high grade, and first-generation prognostic molecular assays, which are driven mainly by proliferation, did not show prognostic value in TNBC. In contrast, Ki67 stainings in TNBC have been suggested to carry prognostic information in some reports but not in others. Small (cT1a/b) node-negative TNBC are potentially aggressive as well. Despite the above-mentioned issues, the Nottingham Prognostic Index (NPI) has been reported to be useful in TNBC.

1154 THE MOLECULAR PROFILE OF CUTANEOUS METASTASIS FROM BREAST CANCER

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Introduction/Background* The incidence of breast carcinoma cutaneous manifestation in patients with breast carcinoma is 23.9%. The most common sites of breast carcinoma cutaneous