a combination of BS (bone scan) and CT (computerized tomography scan) is essential considering the unavailability of PET scan (positron emission tomography).

The aim of this study is to explore the bone involvement of gynecological cancer.

Methodology It is a retrospective study including gynecological cancer patients, referred for bone scan during 2019, at the Nuclear Medicine department of Tlemcen University Hospital in Algeria.

Two hours after the intravenous injection of 8-10 MBq/kg ^{99m}Tc -HMDP (hydroxy methylene diphosphonate), whole body scanning is accomplished by dual head hybrid gamma camera with low energy high resolution collimator.

Result(s)* Twenty-three bone scans were indicated in the initial staging of gynecological cancer patients, median age of 59 years [42-81], to explore bone pain in 15 cases (65%) or an advanced stage of the neoplasms (peritoneal carcinomatosis, bone metastases or lung metastases) in 08 cases (35%).

The different types of tumors are ovarian (10; 43,5%), cervical (9; 39,1%), and endometrial (4; 17,4%).

The majority of BS (15 patients; 65,2%) are relevant of osteoarthritis, involving both the spine and the peripheral joints, which are symptomatic in knees and shoulders. 4 patients (17,4%) had normal scintigraphy.

Four patients (17,4%) had multiple bone metastases with hot uptake scintigraphic pattern, involving both the axial and appendicular skeleton. Among these cases, the most common metastatic sites are pelvis, spine, and rib. Upon these metastatic patterns, 2 cases are related to endometrial cancer (8,7%), the rest are related to cervical (1; 4,34%) and ovarian carcinoma (1; 4,34%). Bone pain was present in 3 metastatic cases involving spine, the rest was declared with bone metastases at CT.

Conclusion* Bone involvement of gynecological cancer is not frequent, it can be symptomatic or reported by CT scan. BS is a useful tool to explore with its good sensitivity the entire skeleton, in order to stage the neoplasm.

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PAP-SMEARS ALLOW THE IDENTIFICATION OF PROTEIN BIOMARKERS TO DIAGNOSE ENDOMETRIAL CANCER

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Introduction/Background* Endometrial cancer (EC) is the most common gynecological cancer in developed countries. There are no screening tools for its early diagnosis, and the diagnostic process starts with the apparition of related symptoms, mainly, abnormal vaginal bleeding (AVB). It is estimated that ~7M women with AVB will undergo the diagnostic process every year in Europe, and from those, 9%

will have EC. Importantly, the current diagnostic process relies on the pathological examination of an endometrial biopsy that is always obtained by minimally-invasive to invasive methods. This overdiagnosis creates a big burden to the healthcare systems, so the development of non-invasive tools for EC diagnosis would revolutionize this scenario. Our aim is to approach a non-invasive diagnosis by the identification of protein biomarkers to accurately diagnose EC in liquid cervical cytologies.

Methodology The discovery phase consisted of a shotgun label-free proteomic approach. It included 60 patients (20 EC, 20 controls suffering AVB without endometrial or cervical pathology, and 20 controls without endometrial pathology but cervical pathology). The levels of a statistically significant set of 75 proteins (110 peptides) from the discovery phase were measured in a verification phase including 234 (107 non-EC; 127 EC) patients by LC-MSMS/PRM. Analysis was performed using MaxQuant, Skyline, SPSS and R software.

Result(s)* The discovery study permitted to determine a total number of 2,888 proteins in our samples. Statistical analysis identified 75 potential proteins differently expressed between EC and non-EC patients to be further assessed and verified. Verification phase revealed the potential of 58 proteins measured in cervical cytologies to reach a non-invasive diagnosis of EC. Specifically, 16 proteins achieved an AUC > 0.75, and 3 proteins an AUC > 0.8. Additionally, an ELISA assay of the best performing protein was tested reproducing the results obtained by mass-spectrometry and reaching an AUC=0.927 in this dataset.

Conclusion* We identified protein biomarkers in liquid cervical cytologies to diagnose EC patients with a diagnostic power up to 92%. These results are promising for a subsequent development of an early and non-invasive screening tool for EC. This tool is expected to change the standard of care in EC diagnosis.

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EFFICACY OF TRANSVAGINAL AND TRANSABDOMINAL ULTRASOUND GUIDED BIOPSIES FOR HISTOLOGICAL DIAGNOSIS AND COMPLICATION RATES IN THE TWO BIOPSY METHODS

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Introduction/Background* Thousands of women each year of varying age undergo Transvaginal (TV) and Transabdominal (TA) guided biopsy's due to suspected gynaecological cancers, the most common being Ovarian Cancer & Primary Peritoneal Carcinomatosis. This study firstly looked at the efficiency and accuracy in attaining a conclusive histological diagnosis from a biopsy obtained via TA and TV method.

It also looked at whether there was any correlation between complications of TA and TV guided biopsies, and if so, were any confounding factors identified.

Methodology A search was done to identify all individuals who had undergone an ultrasound guided biopsy at Airedale General Hospital between March 2018 and August 2020. Those individuals who had undergone ultrasound guided biopsies at sites other than TA and TV were excluded from this study (e.g. axillary).