

Objective: Breast haematological malignancies (BHM) are rare. Most lymphomas involving the breast are of B-cell lineage, T-cell phenotype is rare. Breast multiple myeloma is exceptional. Our aim is to highlight the clinical and the pathological features of this rare entity.

Method: We report four cases of BHM occurring in four women, in the period from 2003 to 2015.

Results: Mean age of patients was 54 years (range 36–80 years). One among the four women was known to have chronic lymphocytic leukemia treated with chemotherapy; the second woman was known to have T-cell lymphoma involving lymph nodes and pancreas while the two other cases had no previous medical history. Clinical presentation was a unilateral breast mass in three cases with an inflammatory skin appearance in one case; in the fourth case, the patient presented with swelling and hardening of her both breasts. Histological and immunohistochemical examination revealed breast involvement with diffuse large B-cell lymphoma in two cases; T-cell lymphoma and multiple myeloma in the other cases.

Conclusion: BHM demonstrate a variable clinical presentation and radiological features similar to those of carcinoma. Diagnosis is based on histological and immunohistochemical findings. Treatment includes chemotherapy and radiation. Prognosis is dependent on histological type and staging of the disease.

PS-01-009

Triple negative invasive breast carcinomas with comedo necrosis have a better prognosis than the majority of other triple negative tumours

T. McFarlane*, S. Shousha

Imperial College London & NHS, Tissue Bank / Histology, United Kingdom

Objective: Triple negative invasive breast carcinomas are a group of tumours with different microscopic appearances. A characteristic microscopic feature of a sub-group of these tumours is the presence of comedo-type necrosis. This study aimed at comparing the demographic features and prognosis of this subgroup of tumours with the rest of triple negative carcinomas.

Method: The study included 65 triple negative invasive breast carcinomas which were divided into 2 groups: those with comedo necrosis (23) and those without (42). Cases were compared as regards the immunohistochemical expression of cytokeratin (CK) 5, CD10, Maspin and Claudin 1, 3 and 4, as well as patients' ages, size of tumours, axillary lymph node status and incidence of recurrences.

Results: There was no statistically significant difference as regards age, tumours size or the expression of CK 5, CD10, Maspin or Claudin 3 and 4. Claudin 1 was significantly less expressed in tumours with comedo necrosis (13 vs 26 % for tumours with no comedo necrosis) and also showed a significantly less incidence of axillary lymph node metastasis (13 vs 52 %) and recurrences (14 vs 27 %).

Conclusion: Triple negative invasive breast carcinomas with comedo necrosis have a better prognosis than the majority of other triple negative tumours.

PS-01-011

Assessment of discordance of immunohistochemistry and in situ hybridization HER2 testing results in breast cancer specimens: A regional slide-exchange ring study

N. Basheska*, L. Latinovic-Tadic, L. Amidzic, I. Jovanic, Z. Milovanovic, G. Petrushevska, T. Ivkovic-Kapiclj, S. Usaj-Knezevic

*UCRO Skopje, Dept. of Histopathology and Cytology, Republic of Macedonia

Objective: A regional slide-exchange ring study with four testing rounds was designed in order to assess immunohistochemistry (IHC) and in situ hybridization (ISH) interlaboratory consensus of HER2-testing in breast cancer among four experienced testing centers.

Method: In each round, one center selected and sent to the other centers two specimen sets (one for IHC, and one for ISH) consisting of four breast cancers. Institutions could participate irrespective of the staining methods, protocols, and antibodies used for IHC or ISH testing of HER2 status. Results were analyzed by an independent coordinator.

Results: After the IHC testing complete consensus among the four institutions was achieved for 7 (43.8 %) of the 16 specimens. Retesting by ISH of the 8 specimens scored as equivocal by at least one laboratory, increased the concordance rate to 68.8 % (11/16), while a diagnostic discordance was found in two cases. A complete concordance between testing centers for ISH was found for 9 (56.3 %) of the 16 specimens. The group of discordant findings consisted of 4 cases having borderline HER2-positivity determined by at least one center, and one case with diagnostic discordance.

Conclusion: The current regional ring study in which the level of consensus among the testing centers for HER2 testing by both IHC and ISH was similar to already reported in previous studies, in spite of the unstandardized conditions, highlights the usefulness of implementing such slide-exchange programs as an additional instrument for external quality control.

PS-01-013

TTF-1 expressing primary Small Cell Carcinoma (SCC) of the breast, present initially as a lymph node metastasis

B. Mollamehmetoglu*, E. Fidan

*Kanuni Training Hospital, Dept. of Pathology, Trabzon, Turkey

Objective: Thyroid transcription factor 1 (TTF-1) expression in breast small cell carcinoma has been reported only rarely. This reported case is unique because of the first diagnosed in the axillary lymph node metastasis of unknown primary.

Method: A 60-year old woman presented with a palpable mass in the right axillary region. A PET/CT Scan revealed a markedly FDG avid right axillary lymph nodes. PET/CT Scan showed no other malignancy other than axillary lymph nodes. As no origin for the tumour was found, a lymph node biopsy was performed.

Results: Microscopic investigation showed typical appearance of a small cell carcinoma with sheets, irregular nests and trabeculae of small to medium sized cells with minimal cytoplasm, hyperchromatic nuclei, and inconspicuous nucleoli. By immunohistochemistry the invasive carcinoma cells were positive for neuroendocrine markers: synaptophysin and CD56, were positive for TTF-1, E-cadherin, CK5/6. The carcinoma cells were positive for estrogen receptor, but negative for progesterone receptor, GCDPF-15, HER2/neu. As a result, the initial investigations of the biopsy gave suspicion of metastasis from breast cancer. The patient underwent a right radical mastectomy. In the upper inner quadrant there was multiple firm irregularly shaped small nodules with largest diameter 15 mm. Sixteen axillary lymph nodes examined were all involved by metastatic tumour.

Conclusion: We report a case of primary small cell carcinoma of the breast with coexisting carcinoma in situ in which the invasive and in situ component both showed a diffuse and strong positive reaction to TTF-1 and neuroendocrine markers.

PS-01-014

Lysyl oxidase (LOX) contribute to formation of intratumoural fibrotic focus (FF) by inflammation in invasive breast cancer

H.-K. Oh*, W.-J. Sung, J. W. Jung, Y. J. Jeong, S. H. Park

*Catholic University of Daegu, Dept. of Pathology, Republic of Korea

Objective: LOX is an ECM enzyme that catalyzes the cross-linking of collagens. LOXs are related to tumour fibrosis and progression. FF was associated with poor prognosis in breast cancer. Inflammation precedes fibrosis and is related to tumourigenesis. Our hypothesis is that LOXs