



Pathology-2015: Use of immunohistochemistry in core needle biopsy of breast: 2 years experience at Al Qassimihospital Sharjah

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Abstract

Immunohistochemistry is a process where antigens are detected in cells by application of antigen antibody interactions in biological fluids with the help of radiolabelled antibodies. It is useful in the detection of tumour and stage of cancer. IHC is also useful in drug development by detecting the up or down regulation of disease targets.

Introduction: Total 174 cases of Breast CNB were received from 2 different sources, one from National Screening Centre, Abu Dhabi (168) and one from Sharjah Kuwaiti Hospital (6). The cases were mixed either palpable or non-palpable (screen detected) from patients age ranging from 32 to 73 years. 56 patients were the nationals of United Arab Emirates and the rest were from about 20 different nationalities. The types of the procedures of biopsy taking were variable like core needle or vacuum assisted either U/S guided or stereotactic mammogram guided.

Method: Total 174 cases received during this period were analyzed. H & E stain on 3 levels was done in all the cases. Immunohistochemistry for breast progressive markers ER, PR & Her2neu was done on all malignant cases. Immunohistochemistry markers E-cadherin, CKAE1AE3, Collagen IV, SMA, SMM-HC, P63, CD10, HMWCK, and Ki67 were run as per the requirement based on H & E findings and availability in the department. CD31, S100, CD34, Desmin, bcl2, CD99 and CD45 were also used on rare occasions.

Result: Definite benign diagnosis was given in 43 cases without use of IHC. 37 definite malignant diagnoses were given without using myoepithelial markers. Myoepithelial markers were used in 81 cases, 58 out of them were concluded as benign and 23 as malignant. Schwannoma and vascular neoplasms were ruled out in few cellular fibroepithelial lesions by use of CD31, S100, CD34 and Desmin. Cases of radial scar, complex sclerosing lesion and some sclerosing adenosis were mimicking invasive carcinoma on H&E examination. Here myoepithelial markers helped to reach the final diagnosis. In other instances, CKAE1AE3 and CD45 were useful to rule out lobular invasive component where lymphocytes were causing confusion. Myoepithelial/basal markers and ER also helped in papillary lesions. HMWCK helped in differentiating usual ductal hyperplasia from atypical ductal hyperplasia. ER and ki67 were useful in columnar cell lesion.

Conclusion: In few cases of Breast CNB definite diagnosis is not possible without IHC. Diagnostic problems in lesions like radial scar, complex sclerosing lesion, columnar cell lesions/flat epithelial atypia, a typical ductal hyperplasia and papillary lesion, myoepithelial markers, ER and HMWCK are useful to reach the final diagnosis. Use of breast progressive markers on carcinoma diagnosed on CNB is of tremendous importance for very small lesions and for possible mixed tumours. Also they are almost compulsory where the CNB and followed excision/mastectomy are performed and diagnosed at two different centres