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Primary undifferentiated high grade sarcoma of the breast: A clinicopathologic study of 19 cases

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Aim: We present 19 cases of primary undifferentiated high grade sarcoma of the breast (previously termed as pleomorphic malignant fibrous histiocytoma; MFH), the largest series to date, and compare our results with those in the literature to better define MFH in this anatomic location.

Methods & Results: 27 cases (MFH, myxofibrosarcoma, or pleomorphic sarcoma NOS) were reviewed using WHO and FNCLCC criteria. Inclusion required location within breast parenchyma without extensive chest wall involvement. Morphologic features were recorded and immunohistochemistry applied. Clinical data were extracted from patients' medical records. Clinically, there was one male patient. 5 of 15 (33% overall) patients with follow-up were died of disease within an average of seven months following diagnosis. Distant metastases and older patient age were associated with poor survival. Storiform-pleomorphic subtype was most common (10/19) with myxofibrosarcoma (6/19) and giant cell subtype (1/19) also observed. Unique lymphocyte-rich (1/19) and pleomorphic hyalinizing angiectatic tumor (PHAT)-like (1/19) morphologies are presented. Immunohistochemistry demonstrated expression of CD68 (71%), focal smooth muscle actin (36%), with rare focal ER and PR immunoreactivity. All cases were negative for CD34, S100 protein, desmin 33, and keratins, including CK7, CK20, CK5/6 and CK18.

Conclusion: MFH occurs as a primary lesion in breast parenchyma. Attention to morphologic detail and immunohistochemistry avoids misdiagnosis. Entrapped breast ductal epithelium should not be misinterpreted as the epithelial component of a biphasic tumor. A florid lymphoid response should not be confused with metaplastic carcinoma. PHAT-like features may be observed in MFH. Our study confirms the presence of MFH in breast and presents unique morphologic observations of primary breast MFH.

Biography

Paul Hartel is a Consultant Histopathologist at Sligo University Hospital, Ireland and holds faculty appointment at West Virginia University and National University of Ireland. He is trained in Pathology at West Virginia University and has fellowship in Pulmonary Pathology at Armed Forces Institute of Pathology, Washington DC. He is active in teaching and research and has many speaker invitations nationally/internationally. He is Diplomate of American Board of Pathology and Fellow at Royal College of Physicians in Ireland, College of American Pathologists and American Society of Clinical Pathology.

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