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COMMENTARY

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Histopathology of Granular Cell Tumour and its Criteria for Breast Cancer

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Description

A rare cause of breast mass in premenopausal women, granular-cell tumours manifest as a persistent, painless lump. Both clinically and radiographically, it mimics infiltrating carcinoma. The most common form of therapy for granular-cell tumours is extensive local excision. Definitive pre-operative diagnosis helps to avoid needless mastectomy. We outline the clinical, mammographic, and sonographic features of a 57-year-old woman's benign breast granular-cell tumour [1].

A 57-year-old female patient was referred for a diagnostic mammography. A lump in the right breast region that had been bothering the patient for the past eight months. Neither the tumour nor the nipple had any discharge emanating from them. A thick, well-defined mass lesion was visible on diagnostic mammography in the upper and lower outer quadrants of the subareolar area (mediolateral oblique and craniocaudal views). With thickening of the skin above, the lesion was mostly visible in the subcutaneous plane. The nearby duct displayed scattered calcification and seemed to be too thick.

The head, neck, and chest wall are the most common locations for the uncommon, often benign tumour known as Giant Cell Tumor (GCT). It frequently appears on the tongue. It happens in the subcutaneous, intradermal, and submucosal layers, according to a study of the literature. Clinically, GCT appears as a persistent, asymptomatic lump. With the exception of one instance when a screening mammogram revealed an axillary GCT lesion, all other instances were detected via diagnostic mammography or High-Resolution Sonography (HRS).

Histopathology

Granular-Cell Tumours (GCT) are characterised by the presence of large granular cells, which have an abundance of granular cytoplasm, and stroma, which has blood vessels with thin walls [2-4]. Schwann cell origin is supported by cells that are positive for the S-100 protein, CD68 (KP-1), Neuron-Specific Enolase (NSE), and Carcino Embryonic Antigen (CEA). Cytokeratin causes a negative response in GCT. Estrogen receptors and desmin receptors both test negative. Vimentin reactivity distinguishes GCT from cancer. When malignant lesions with granular cells are seen in histology, apocrine carcinoma and alveolar soft-part carcinoma are taken into consideration as potential diagnosis. In the literature, there are reports of postmastectomy scar granular-cell traumatic neuroma, co-localized GCT, and infiltrative ductal carcinoma.

Core biopsy and histology establish a clear diagnosis. To prevent significant resection and axillary clearing for cancer, it is crucial to get a firm diagnosis before to surgery. The preferred course of therapy is wide local excision. Incomplete resection results in local recurrence. Just 1% of GCT instances are cancerous. Malignant GCT is known to metastasize to the liver, lung, bone, and axillary lymph nodes [5].

Histopathologic criteria for malignancy

1. Spindling.
2. Necrosis.
3. Large nucleoli in vesicular nuclei.
4. A high ratio of nuclear cytoplasm.
5. Pleomorphism of the nucleus.
6. An increase in mitotic activity.

2 of the 6 aforementioned traits are regarded as unusual, and 3 of the 6 are regarded as malignant.

In imaging, GCT might be misinterpreted for cancer. As a result, GCT must be taken into account when making a differential diagnosis for Breast Imaging Reporting & Data System (BI-RADS) category 4 or

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5 lesions [6]. A breast lesion with its epicentre in the subcutaneous plane can be utilised as a hint to help with the imaging diagnosis since it is stated to occur in subcutaneous, intradermal, and submucosal layers. GCT is typically benign, and the treatment choice is extensive excision. Only image-guided biopsy allows for a preoperative conclusive diagnosis, and this procedure is essential since it helps prevent needless mastectomy and axillary clearing, which are performed in the event of cancer.

References

[1] Simone N De, Aggon A, Christy C. Granular cell tumor of the breast: Clinical and pathologic characteristics of a rare case in a 14-year-old girl. J Clin Oncol 2011;29: 656-657.

[2] Gavriilidis P, Michalopoulou I, Baliaka A, Nikolaidou A. Granular cell breast tumour mimicking infiltrating carcinoma. BMJ Case Rep 2013; 2013: bcr2012008178.

[3] Jagannathan DM. Benign granular-cell tumor of the breast: Case report and literature review. Radiology Case Reports 2015;10: 1116.

[4] Al-Ahmadie H, Hasselgren PO, Yassin R, Mutema G. Colocalized granular cell tumor and infiltrating ductal carcinoma of the breast. Arch Pathol Lab Med 2002;126: 731-733.

[5] Scaranelo AM, Bukhanov K, Crystal P, Mulligan AM, O'Malley FP. Granular cell tumour of the breast: MRI findings and review of the literature. Br J Radiol 2007;80: 970-974.

[6] Hoess C, Freitag K, Kolben M, Allgayer B, Laemmer-Skarke I, Nathrath WB, et al. FDG PET evaluation of granular cell tumor of the breast. J Nucl Med 1998;39: 1398-1401.