Granular cell tumor (GCT) was first described as a separate clinico-pathologic entity in 1926 by Abrikossoff (1) and was originally given the name granular cell myoblastoma. Granular cell tumor, an almost always benign neoplasm of putative Schwann cell origin, occurs in a wide variety of visceral and cutaneous sites. When it occurs in the breast, this uncommon lesion must be differentiated from primary breast carcinoma. Clinically, GCTs can mimic carcinoma because of their fibrous consistency and hence their hardness, thus presenting as a palpable mass. Herein, we are presenting the mammographic and ultrasound findings of GCT of breast in a 59 year old woman.

Case report

A 59-year-old woman presented to our radiology department with a palpable mass in her upper outer quadrant of the right breast. At physical examination, a hard, painless mass without skin fixation was found in the upper outer quadrant of the right breast, at the axillary tail. Standard mammography, including mediolateral oblique view showed a 2 cm sized hyperdense mass with spiculated margins (Fig. 1). The lesion was not visible on craniocaudal view. There was no parachymal distortion, associated microcalcifications or skin thickening. At ultrasound...
distinct or spiculated lesion. Microscopic round, well-circumscribed mass to an ectopic gland (4). Mammographic appearance of GCT ranges from a cancer that originated from breast or skin, there can be dimpling, retraction to the pectoral fascia, chest wall metastases has been described in the literature (2). In conclusion, GCT of the breast is a rare benign neoplasm that bears similar mammographic and ultrasound appearances with breast cancer. The definite diagnosis can usually be achieved with histopathological assessment. The treatment of GCT is wide local excision and it should be kept in the differential diagnosis list of breast masses.

Discussion

GCT of the breast is rare, with an incidence of 5-8%, and occurs in approximately 1 in every 1,000 breast cancers (2). Patients with GCT of the breast are usually middle-aged, premenopausal women, although rare examples have been reported in males (3).

The lesion usually presented as a painless, firm, mobile mass in the upper inner quadrant of the breast, corresponding to the cutaneous sensory territory of the supraclavicular nerve, which thought to derive from Schwann cells (2). When there is fixation to the pectoral fascia, chest wall or skin, there can be dimpling, retraction or edema which can simulate cancer that originated from breast or ectopic gland (4). Mammographic appearance of GCT ranges from a round, well-circumscribed mass to a distinct or spiculated lesion. Microcalcifications are not usually a feature of GCTs. At ultrasound, GCT may manifest as a solid, poorly marginated mass with marked posterior acoustic shadowing (4), alternatively it may have a benign appearance as a well-circumscribed solid mass (5, 6).

MRI could be performed to evaluate the extent of the disease and the presence/absence of aggressive features seen in other breast malignancies. The MRI findings of GCT of the breast reported in the literature include iso-intensity on T1 and T2 weighted images and nonhomogeneous rim enhancement after gadolinium injection (7).

It is not possible to establish a definitive diagnosis of GCT of the breast clinically or radiologically, without a biopsy. At pathological analysis, GCT manifests as a pattern of closely packed nests of cells with abundant cytoplasm containing numerous fine eosinophilic granules (6). The neoplastic cells of the tumor typically express S100 and CD68 (KP-1), the latter as a result of cytoplasmic lysosome content. However, the exact histogenesis of this tumor is still unknown (8). Wide local excision is curative for GCT, but local recurrence has been reported after incomplete excision. In addition, malignant GCT with metastases has been described in the literature (2).

In conclusion, GCT of the breast is a rare benign neoplasm that bears similar mammographic and ultrasound appearances with breast cancer. The definite diagnosis can usually be achieved with histopathological assessment. The treatment of GCT is wide local excision and it should be kept in the differential diagnosis list of breast masses.

References