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GIANT FAT CONTAINING BREAST MASSES: REPORT OF SIX CASES
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GIANT FAT CONTAINING BREAST MASSES: REPORT OF SIX CASES

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SUMMARY

Six patients with giant fat containing breast masses encountered over a 20 year period are presented including a brief review of the literature. These benign tumours especially the giant varieties are rare but are likely to be increasingly diagnosed because of the widespread use of mammography.

INTRODUCTION

Fat containing circumscribed breast masses are invariably benign, can be diagnosed radiographically and may not normally require biopsy(1). They included hamartomas (fibroadenolipomas), lipomas, galactoceles, oil cysts and intramammary lymph nodes. The giant variety of these masses are very rare. Six such cases are presented.

CASE REPORTS

Case 1: A 52 year old woman presented with a mass in her right breast. The mass was firm and was not fixed to the skin or deep muscles. The skin was stretched and showed dilated superficial veins but no ulceration. Mammography revealed a huge mass of fat density measuring 18x15x15cm and displacing normal breast tissue. There was no calcification (Figure 1). On ultrasonography, the mass was hypoechoic with scattered posterior shadowing. FNAC showed fatty tissue only. The mass was excised through a sub-mammary approach and pathological examination confirmed a giant lipoma.

Case 2: A 35 year old woman presented with a large painless right breast mass. Mammography showed a large mass of mixed fat and solid density measuring 6x5x5cm, with a thin capsule around. The mass was completely excised and pathological examination confirmed a hamartoma.

Case 3: A 47 year old woman complained of a mass in her left breast. The mass was mobile and unattached to skin. Mammography showed a 12x7x8cm mass with areas of fat density. It was excised and confirmed pathologically to be a fibroadenolipoma (hamartoma).

Case 4: A 36 year old woman presented with a large mass in her right breast which on mammography was well-defined and of mixed solid and fat density. It measured 10x8x8cm. Ultrasonography showed a heterogeneous echopattern. The mass was excised and was confirmed pathologically to be a hamartoma (Figure 2).

Case 5: The patient was a 19 year old woman with a slowly growing painless mass in her left breast of 4 years duration. There was no nipple discharge. On mammography, the mass was 8x6x6cm in diameter, of fat density and with a curvilinear calcified wall (Figure 3). It was excised and pathologically it was an oil cyst with a calcified wall. The patient denied any history of trauma.

Figure 1

52 year old woman with a large right breast mass. Cranio-caudal Mammogram shows a giant mass of the density occupying most of the breast and displacing normal breast tissue. Lipoma was confirmed pathologically (case 1).

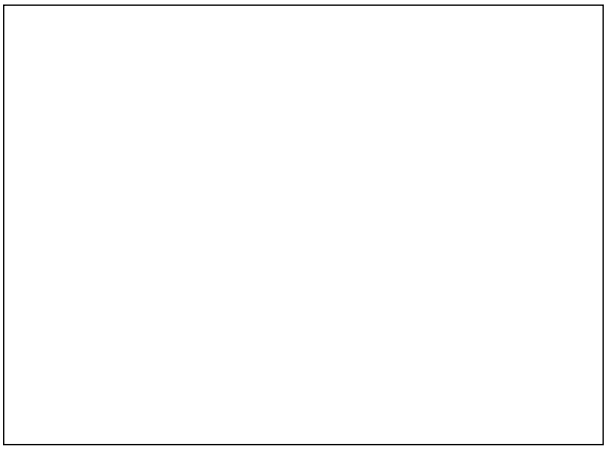


Figure 2

36 year old woman with a right breast mass. Craniocaudal Mammography shows a large mass of mixed fat and soft tissue density. It was excised and histology confirmed a hamartoma (case 4)

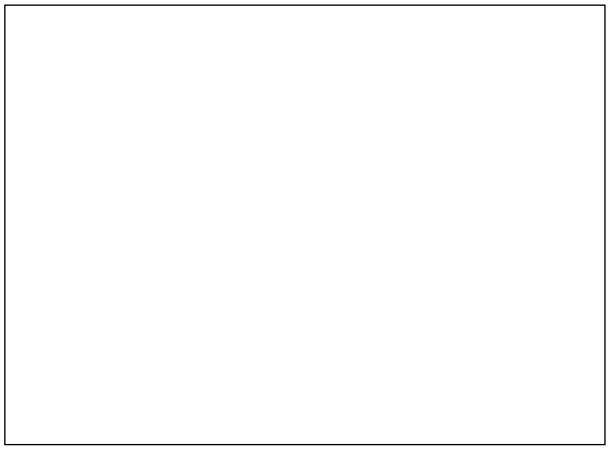
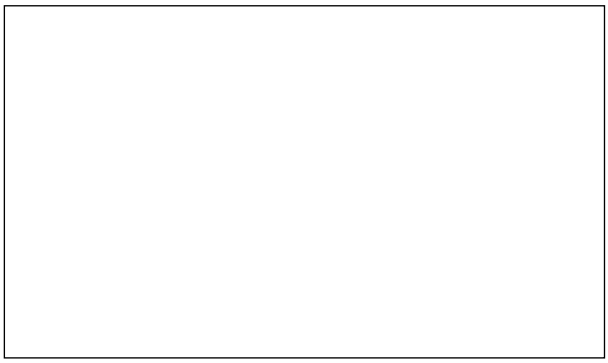


Figure 3

Nineteen year old woman with a large painless mass in her left breast of 4 years duration. Mammogram shows a large mass of fat density with peripheral calcification. It was excised and proved to be a giant oil cyst (case 5)



Case 6: A 21 year old lactating woman felt a mass behind the nipple of her left breast. Mammography showed a well-defined 6x5x5cm retroareolar mass which was hypoechoic on ultrasound. Aspiration yielded milky fluid confirming a galactocoele (Figures 4a and b).

Figure 4a

Medio-lateral mammogram of the left breast of a 21 year old lactating woman, shows a large well defined retroareolar mass of fat density. Aspiration yielded milky fluid confirming a galactocoele (case 6)

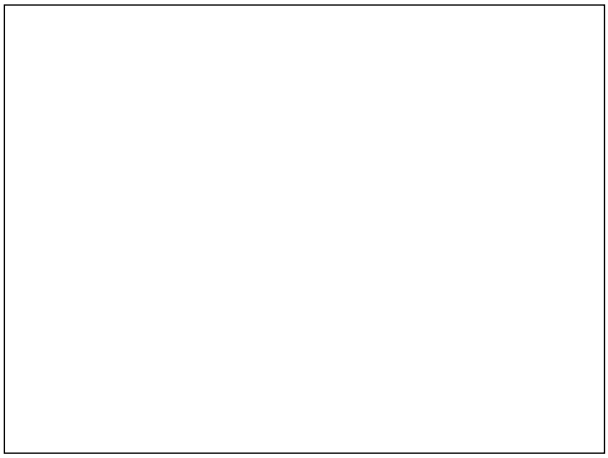
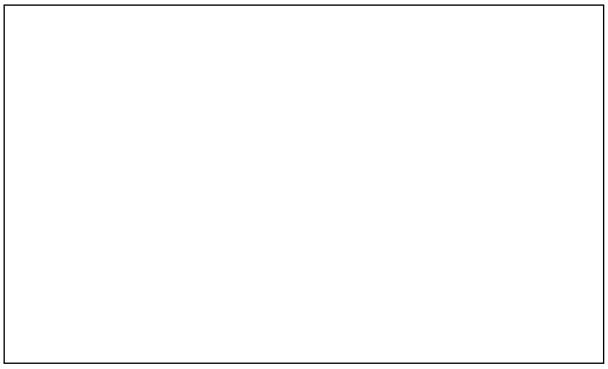


Figure 4b

Ultrasound shows the mass to be wall defined and hypoechoic. Aspiration was carried out under ultrasound guidance



DISCUSSION

Circumscribed fat containing breast masses are invariably benign, lend themselves to definite radiological diagnosis and may not require biopsy(1). They include fibroadenolipomas (hamartomas), lipomas, galactocoeles and oil cysts. In a retrospective review of giant breast masses over a period of 20 years (1980 to 2000) we encountered six giant fat containing masses (Table 1) out of a total of 41 such masses. There was one lipoma three hamartomas, one galactocoele and one oil cyst. All except the oil cyst were correctly diagnosed preoperatively by mammography. The ultrasound (US) findings were non-specific in the two patients who had US performed. The lipoma was correctly diagnosed by FNAC

Breast lipomas contain fat only with no fibroglandular elements. They are usually small benign neoplasms which can be successfully treated by simple excision. Their diagnosis may however be difficult because of the normal fatty composition of the breast(7). Giant breast lipomas are rare, and may not be appreciated on initial clinical and radiographic evaluation(7). Other breast masses that may be clinically confused with lipoma are pseudolipomas, hamartomas and liposarcomas, the later being extremely rare. A distinction should be made between a true lipoma of the breast which is a very rare tumour and a pseudolipoma which

Table 1

Summary of giant fat containing breast masses in an Arab population

Case No.	Age	Nature of mass	Size	Treatment and comment
1	52	Lipoma	18x15x15cm	Excision; No recurrence
2	35	Hamartoma	6x5x5cm	Excision; No recurrence
3	47	Hamartoma	12x7x8cm	Excision; No recurrence
4	36	Hamartoma	10x8x8cm	Excision; No recurrence
5	19	oil cyst	8x6x6cm	Excision; No recurrence
6	21	Galactocoele	6x5x5cm	Aspiration; No recurrence

is an uncommon manifestation of and may conceal a breast cancer(8,9). The term pseudolipoma refers to a lump with all the clinical features of a subcutaneous lipoma, formed by a slowly growing breast carcinoma. The fatty swelling is easily palpable and often easily seen, but the carcinoma itself is concealed beneath or in the centre of the fat(8-9) in one series of 410 breast careers, 18 pseudolipomas were observed, an incidence of 4.4%(8). The basic mechanism of pseudolipoma formation is that the contracting carcinoma draws together the deep attachments of the retinacula cutis. This results in a reduction in volume of the fat-filled compartments, so that the compressed fat pushes the skin outwards. If the process continues, the aggregation of fat produces an obvious protrusion with a lobulated appearance(8,9). Very rarely, chronic inflammatory mastitis with mammary duct ectasia may produce a pseudolipoma also(8,9).

Hamartomas are circumscribed masses composed of variable amounts of fibroglandular and fatty tissue with a thin partial or complete connective tissue capsule(2,3). They are slow growing benign breast lesions, which have been increasingly recognised after the advent of mammography(4). They usually present as a painless mass approximately 5cm in diameter, but may be considerably larger. In our three cases, the hamartomas measures 6x5x5cm, 12x7x8cm and 10x8x8cm respectively. They are unilateral and as in our cases, do not recur after excision(4). They are usually solitary, but may occur as multiple synchronous lesions as part of the multiple hamartoma syndrome (cowden's disease)(5). They have a capsule of compressed surrounding tissue. Mammographically, they may vary from very lucent lesions and be confused with a lipoma to a well circumscribed homogeneous mass and be mistaken for fibroadenoma(6).

Oil cysts (traumatic lipid cyst) represent a focal form of fat necrosis(1). It is produced by saponification of fat by tissue lipase after local destruction of fat cells with release of lipids and associated haemorrhage and fibrotic proliferation. It may result from direct breast trauma, reduction mammoplasty, breast biopsy and irradiation. They may occur in any part of the breast, but are more common in the areolar region, near biopsy sites and surgical scars. They may appear as a well-circumscribed mass with a lucent centre, or may be ill-defined, dense and speculated and indistinguishable from a carcinoma(10). Calcification which may be curvilinear and of the egg-shell type, as in our case, occurs in 4-7% of patients(10). They yield yellowish fatty fluid on aspiration.

Galactocoeles are milk filled cysts found during or after lactation(1-11) Due to the variable fat content of milk, the mammographic appearance my be that of a completely fatty lesion similar to a lipoma, mixed fat and water densities similar to a hamartoma or a mass with a fat/fluid level on a horizontal beam lateral film(12).

The hamartomas, lipomas and oil cysts were excised and have not recurred. The galactocoele was successfully treated by aspiration.

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