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Radiologic Quiz

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NOTES AND COMMENTS:

Radiologic Quiz

Andrew K. Poznanski, M.D.

The case described shows some unusual radiographic findings.

A 35-year-old white female, para III gravida III, had had a dermo-fat augmentation of her breasts 10 years previously, at another hospital. Several months prior to admission, she noted tenderness of her left breast, with some secretions from the left nipple. The left breast was swollen, and a 4 cm hard, tender nodule was palpable in the sub-areolar area. A soft nodule was present in the right breast.

Radiographic findings: Films of the left breast (Fig. 1A) demonstrate an unusual oval area of calcification in the inferior part of the breast. There is a suggestion of radiolucency among the calcifications. Smaller calcific flecks are seen superiorly. The calcified mass lies very close to the chest wall.

The right breast (Fig. 1B) contains an oval radiolucent area (fat density), with only a small amount of calcification adjacent to it. The margins of the lesion are sharply circumscribed.

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Figure 1A



Figure 1B

Now turn the page for answer to the quiz.

Poznanski

Doctor Alex Kelly removed the old dermo-fat graft en bloc with the left mammary gland. There was considerable adherence to the pectoralis muscle fascia. A similar procedure was carried out on the right.

The histologic diagnosis was fat necrosis with calcification. Subsequently, bilateral sialastic breast prostheses were inserted.

Dermo-fat grafts were used for breast augmentation prior to availability of present day prosthetic devices, such as those made of sialastic (Fig. 2). The procedure was described by Bames.⁴ An ellipse of skin, fat and fascia is removed from each buttock, the epidermis removed, and this tissue is implanted into the breast. The limitations of this type of graft include liquefaction and absorption. Fat necrosis such as occurred in this patient has also been described clinically.⁹ Bloch, et al.¹³ described two cases radiographically, but showed no calcifications.

The usual radiographic findings in fat necrosis of the breast^{6,7,10,12} are localized, well circumscribed radiolucency, such as was seen in the right breast in our case, or an area of increased density with spiculated margins which can be sometimes confused with a malignancy.

Calcification in fat necrosis is a recognized pathological entity² but it has only rarely been reported radiographically.^{3,12} None of the text books on breast radiography^{3,5,8,10,12} show such calcifications. Adair,¹ in a rather large series of cases of breast necrosis, describes patients with evidence of calcification, but no radiographs are available.

The calcifications present within the lesion are quite dense, large and irregular and appear to surround a collection of fat. Wolfe¹² described large round and oval calcifications in fat necrosis, and in one case these were apparently confused with cancer.

The calcifications in the case described are easy to differentiate from the well established patterns of breast calcifications.^{5,9,11,12} Although dense and well circumscribed like most other "benign" calcifications, they differ from patterns found within the ductal structures, arteries, or fibro-adenomata. They also differ from the typical malignant calcifications, which are fine, punctuate, with ill-defined irregular margins — such as are illustrated in Fig. 3.

Diagnosis: FAT NECROSIS, WITH CALCIFICATION, IN OLD DERMO-FAT GRAFTS.

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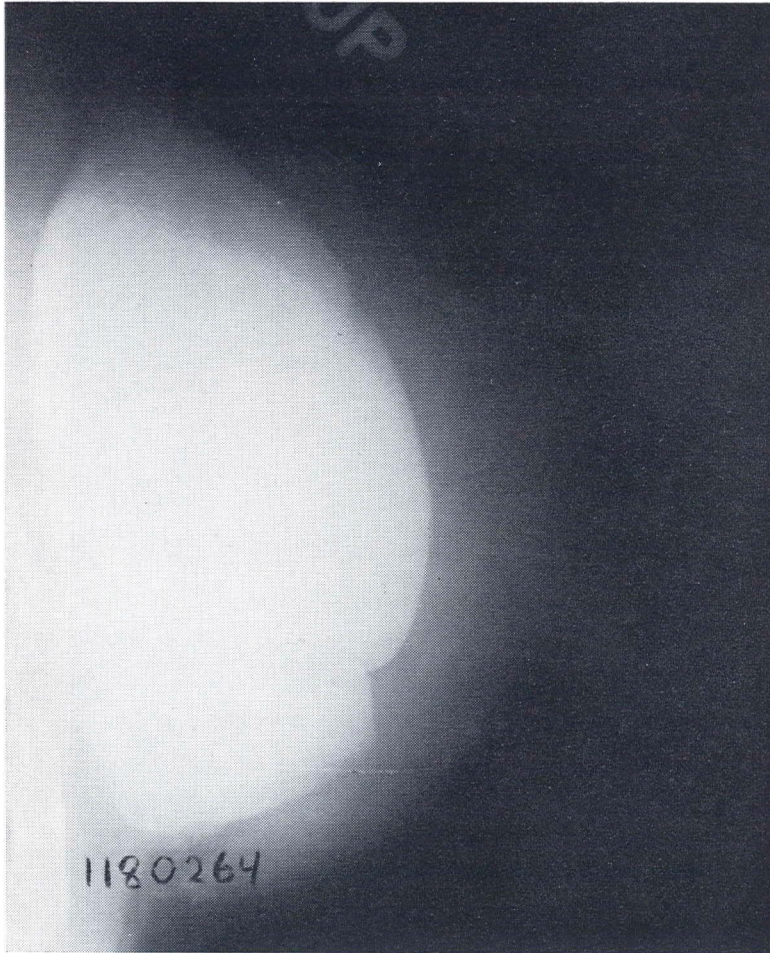


Figure 2

Typical sialastic breast prosthesis.

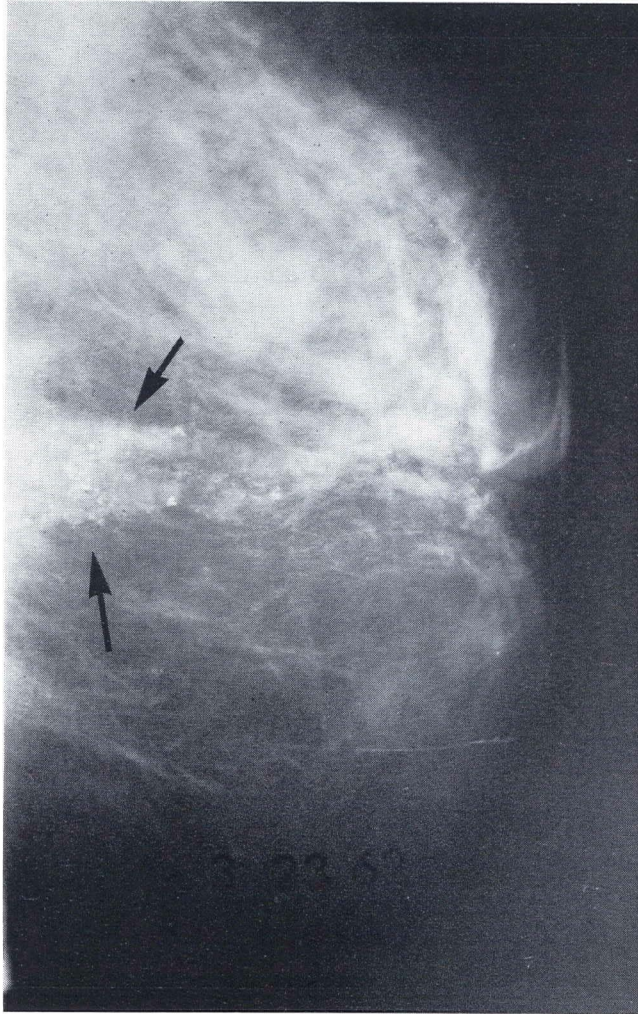


Figure 3

Carcinoma of the breast with typical calcifications.
Note also presence of nipple retraction.

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