Subcutaneous sarcoidosis mimicking carcinoma of the breast

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Summary: A 65 year old woman presented with bilateral breast lumps. Clinical examination suggested a diagnosis of mammary carcinoma, but a histological diagnosis of sarcoidosis was made. Subsequent investigations revealed evidence of pulmonary sarcoidosis.

Introduction

Subcutaneous lesions in systemic sarcoidosis are well known, but uncommon. Rarely subcutaneous sarcoidosis occurs in patients without evidence of systemic disease. We report a case of subcutaneous sarcoidosis involving the breast in a patient with no symptoms or signs of systemic sarcoidosis. A diagnosis of breast cancer was thought to be most likely clinically.

Case report

A 65 year old woman presented with bilateral breast lumps. She had a mass in each breast, approximately 2 cm in diameter. In the left breast the lesion was in the upper outer quadrant, in the right breast in the lower outer quadrant. The lumps were hard and craggy and fixed to the overlying skin, but movable over the underlying fascia. There was some tenderness to palpation. There was no palpable axillary lymphadenopathy. The lesions were noted to resemble peau d'orange. A smaller subcutaneous nodule was present on the upper part of the left arm. The favoured clinical diagnosis was of bilateral breast cancer. Mammography was performed, but this demonstrated skin thickening only. Biopsies were taken of the breast lesions. The lump on the arm was not biopsied.

Histological examination showed a granulomatous panniculitis. Extra-lobular mammary ducts and acini were present in the tissue but were not intimately involved with the inflammatory process, which was limited to the subcutaneous tissue. Well formed epithelioid granulomata were

present, without a mantle of lymphocytes, containing Langan's type giant cells (Figure 1). In places there was coalescence of lesions and central fibrinoid necrosis in some. There was no suppuration and no abscess formation.

The overlying dermis was normal but for a mild perivascular lymphoid infiltration. Stains for acid-fast bacilli, bacteria and fungi were negative. Examination under polarized light failed to reveal foreign material. A diagnosis of subcutaneous sarcoidosis was made.

Physical examination, chest X-ray, lung function tests and laboratory investigation, including an estimation of serum calcium and angiotensin converting enzyme activity, failed to demonstrate any evidence of sarcoidosis elsewhere. A gallium scan was performed which demonstrated increased uptake in the right lung, consistent with active sarcoidosis. There was no increased activity in the subcutaneous tissues of the breast or in the salivary

Figure 1 Well defined non-caseating epithelioid granulomata are present in the subcutaneous tissue. Langan's giant cells are evident.

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glands. The lesions were treated with local steroid injection with some improvement. A new lesion over the left breast appeared 3 months later and this responded to intra-lesional triamcinolone injection.

Discussion

The first reported case bearing the clinico-pathological features of subcutaneous sarcoidosis was described by Darier and Roussy in 1904.¹ They believed that their patient was suffering from tuberculosis. The seeds of confusion were sewn when further cases were described under the eponym which most certainly were of a tuberculous nature.^{2,3} Other examples have been reported that would appear to have been due to a foreign body reaction.⁴ In the great majority of cases of subcutaneous sarcoidosis reported, the lesions appear as painless, persistent nodules. They are not commonly located on the extremities of middle aged adults, who have other features of systemic disease.^{5,6} Sarcoidosis truly limited to the subcutis is rare, but case one of Vainsencher is an example.⁷

Only a small number of cases of sarcoidosis affecting the breast have been described. In most

there was clinical or laboratory evidence of sarcoidosis elsewhere at the time of diagnosis⁸ and there had been a previous history suggestive of sarcoidosis.⁹ A few examples are documented in which no evidence of sarcoidosis elsewhere could be demonstrated.¹⁰ In one unfortunate case, where no histological diagnosis was obtained, a mastectomy was performed in the mistaken belief that the breast lesion was malignant.¹¹ Bodo has reported a case in which the patient presented with a fixed breast lump and induration of the underlying skin and axillary lymphadenopathy.¹² Here, also, the clinical diagnosis was carcinoma. Fine needle aspiration, however, pointed to a granulomatous lesion and an histological diagnosis of sarcoidosis of the breast was made subsequently. In this case there was no evidence of systemic sarcoidosis.

In our case the initial clinical diagnosis was of breast cancer. Biopsy of lesions, however, demonstrated subcutaneous sarcoidosis and subsequent investigations suggested a more widespread involvement by sarcoidosis.

Although it is a very uncommon entity, it is our view that sarcoidosis should be considered in granulomatous lesions of the breast and that in some cases subcutaneous sarcoidosis may mimic carcinoma of the breast clinically.

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