

Reduction Mammoplasty in the Surgical Management of a Giant Breast Hamartoma: Case Report

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Abstract

Introduction: Hamartomas of the breast can achieve unusually large proportions, causing gross distortion of the breast. Conclusive preoperative diagnosis can be difficult. We present such a case and describe the application of reduction mammoplasty techniques in the removal of such a tumour. **Clinical Picture:** A 39-year-old woman presented with gross enlargement of the right breast, which had developed over the course of many years. Clinically, there was no discrete mass within the breast and no palpable lymphadenopathy. **Treatment:** She underwent unilateral reduction mammoplasty. Intraoperative findings were that of a giant hamartoma. The tumour was removed and the breast reconstructed using an inferior pedicled reduction mammoplasty. **Outcome:** The resultant right breast was of a good match to the contralateral normal breast, both in size and shape. **Conclusion:** Reduction mammoplasty is a useful technique for the surgical management of giant breast hamartomas, as it not only addresses the issue of tumour removal but also the aesthetic reconstruction of the breast.

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Introduction

Large benign tumours of the breast cause gross enlargement with compression of normal breast tissue. Following removal of the tumour, the affected side has a large redundant skin envelope and the breast volume may be reduced or distorted compared with the normal side. Reconstruction of the breast to restore volume and symmetry with the opposite side would be the ideal surgical management. We present a case in which we employed reduction mammoplasty techniques for this purpose.

Case Report

A 39-year-old woman presented with gross enlargement of the right breast. The breast had gradually increased in size over a period of about 15 years; she was otherwise asymptomatic. There was no personal or family history of breast disease.

Clinically, there was gross breast asymmetry. The left breast was normal in appearance but the right breast was significantly larger and very ptotic, with fullness superolaterally (Fig. 1). The nipple-areolar complex was also enlarged compared to the left side, compatible with the

chronic skin expansion caused by the slowly enlarging breast. Both the breasts were soft and there was no discrete mass palpable within the right breast. The axillary and supraclavicular lymph nodes were normal. In view of the chronic history and the lack of other significant physical findings, this was felt to be a benign unilateral breast hypertrophy and she was scheduled for reduction mammoplasty of the right breast.

Preoperatively, wise-shaped incision markings for reduction mammoplasty were made to the measurement of the normal left breast (Fig. 2). However, instead of a simple breast hypertrophy, intraoperative findings were that of a large well-encapsulated fibrofatty tumour which was occupying most of the breast volume (Fig. 3). The tumour, measuring 17 x 14 x 9 cm and weighing 808 g (Fig. 4), was easily removed in its entirety, leaving the residual normal breast tissue which was situated mainly in the medial half of the breast. The breast was reshaped using the inferior pedicle technique (Fig. 5). The final histological diagnosis of the tumour was that of a breast hamartoma.

Postoperative, she developed a small haematoma of the right breast which required surgical evacuation. She was

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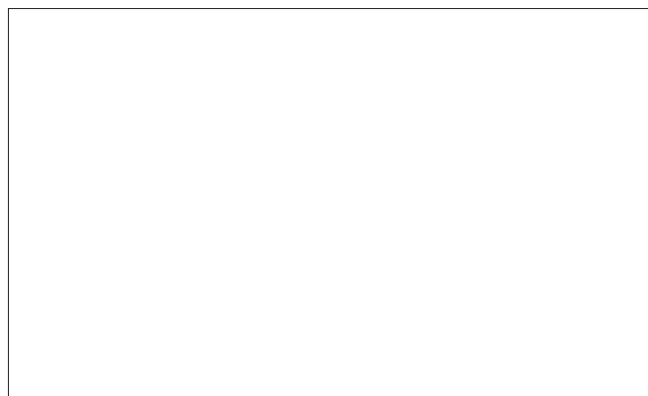


Fig. 1. Preoperative appearance showing gross right breast enlargement. The bulk of fullness was in the superolateral aspect of the breast.

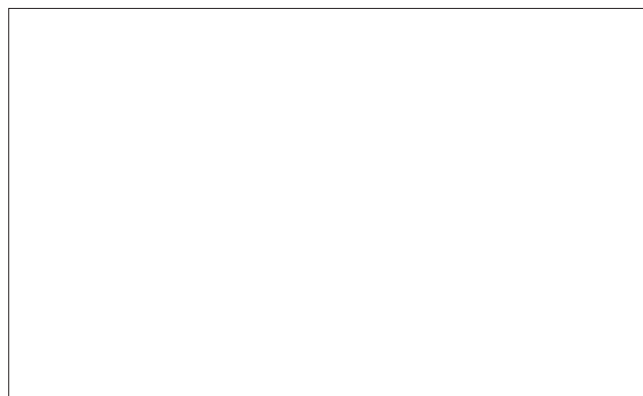


Fig. 2. Preoperative planning showing markings for reduction mammoplasty incisions.

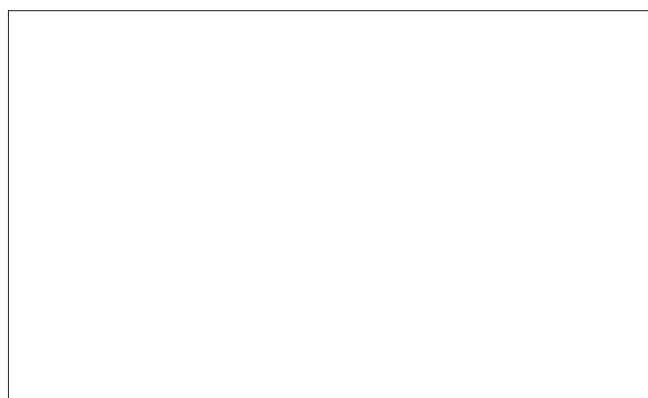


Fig. 3. Intraoperative findings of a large tumour located superolaterally.

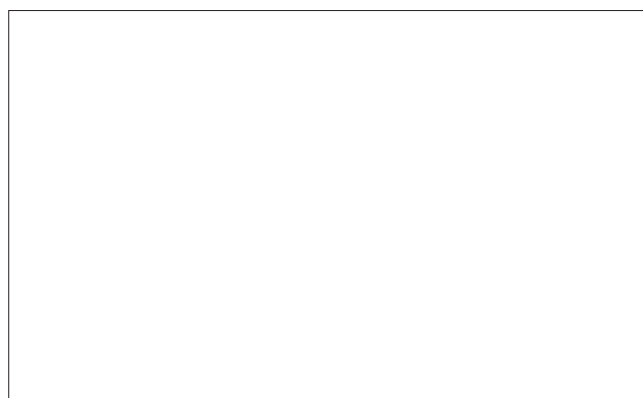


Fig. 4. Giant breast hamartoma weighing 808 g.

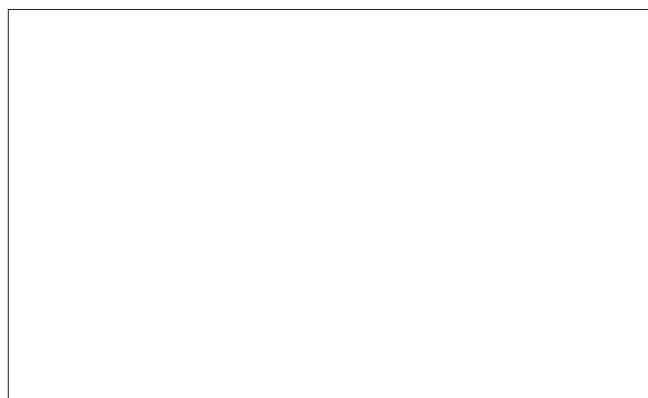


Fig. 5. The remnant breast tissue after removal of the tumour. The inferior pedicle nourishes the nipple-areola complex.

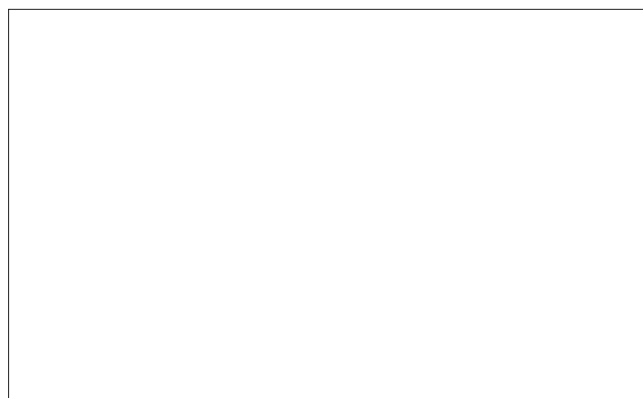


Fig. 6. Postoperative appearance at 9 months.

well subsequently. There was good symmetry of the right breast with the normal left breast in terms of size and shape (Fig. 6).

Discussion

Problems in the management of gross asymmetric breast enlargement are two-fold. First, that of the diagnosis, and second, the surgical strategies to regain symmetry of the breasts.

Unilateral breast enlargement may be due to physiological hypertrophy, but a neoplastic process should always be excluded. In most instances, the age of the patient and the rate of growth of the breast are clues to the cause. A younger patient presenting with a gradual increase in breast size is more likely due to benign conditions such as breast hypertrophy, giant fibroadenoma or juvenile fibroadenoma; however, more rapid growth should alert the clinician to other possibilities, such as a phylloides

tumour. In an older woman, slow progressive enlargement is suggestive of a benign process, but if there has been rapid increase in size, especially in the presence of overlying skin or nipple changes, malignancy must be excluded.

Breast hamartomas, otherwise known as adeno-fibrolipomas, are a known entity. Although previously considered rare, many more small asymptomatic hamartomas have been identified with the implementation of mammographic screening programmes;¹ however, in most instances, they do not achieve such massive proportions as in this case. As the name suggests, hamartomas are disorganised masses of indigenous breast tissue, comprising variable amounts of glandular, fibrous and fatty tissue. As such, they are subject to hormonal influences and there have even been reported cases of malignant transformation;^{2,3} however, these instances are rare and do not justify a more aggressive approach to the management of these lesions.³

The diagnosis of a breast hamartoma is seldom straightforward, and is usually made by a combination of clinical and radiological features, with histological confirmation. Although some hamartomas are palpable as distinct masses, others, as in this case, are soft tumours which cannot be distinguished clinically from normal breast tissue. Mammographically, hamartomas are described as being characteristically well-circumscribed masses with variable degrees of opacity⁴ and such mammographic findings can be diagnostic; but Helvie et al⁵ have reported that there is in fact variability of mammographic appearance, and many lesions, especially the smaller ones, do not exhibit these features. Ultrasonographic features are equally variable.¹ Magnetic resonance imaging reportedly gives an accurate diagnosis,⁶ but this is not a frequently used investigative tool. Fine needle aspiration cytology⁷ is also a poor diagnostic tool; and it is the operative and histological findings that confirm the diagnosis.

Reconstruction of the breast following the removal of the hamartoma is important in order to achieve symmetry with the opposite breast, to give an aesthetically pleasing result. The asymmetrical expansion of the skin of the breast and the nipple-areolar complex need to be corrected. Reduction mammoplasty techniques have been used to remove similar giant tumours and reconstruct the breast.^{2,8} Preoperative planning of incisions and approaches is essential, so that the tumour can be removed through planned mammoplasty incisions. The choice of procedure depends on the location

of the hamartoma and hence, the location of the residual normal breast tissue. The volume of residual normal breast tissue compared to the normal breast must also be taken into consideration. Inferior pedicle mammoplasty should be employed for superiorly located hamartomas and superior pedicle mammoplasty for inferiorly located tumours.⁹ Furthermore, if the residual normal breast tissue is in excess of the normal side, volume reduction can be performed. However, if there is insufficient breast tissue, augmentation can be achieved by using de-epithelialised dermo-glandular flaps or an implant.

In this patient, the superiorly located hamartoma was removed through wise-shaped mammoplasty incisions. The breast was reconstructed using an inferior pedicle technique. We were able to re-shape the residual breast tissue without the need for augmentation. The outcome was that of symmetrical breast size and shape. We believe that preoperative planning of incisions and surgical approach are essential to address both the issues of tumour excision and aesthetic reconstruction of the breast.

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