

East African Medical Journal Vol 71 No 3 March 1994

## REDUCTION MAMMOPLASTY FOR UNILATERAL BREAST HYPERTROPHY

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## SUMMARY

Three cases of unilateral hypertrophy of the female breast are presented and the various methods of their management highlighted. We advocate increased awareness of the condition and improved general surgical training to cope with it.

## INTRODUCTION

Abnormalities of shape and/or position of the female breast are a common problem in our environment. However, due to lack of awareness of the availability of treatment, relative rarity of specialist plastic surgery facilities, poor input of plastic surgery into many general surgery training programmes and the fact that the condition is not debilitating, patients rarely present for treatment. When these abnormalities result in gross disproportion in size of the two breasts however, patients are then seen.

In this communication, we present 3 cases of unilateral breast hypertrophy who were managed by us within the last one year, highlighting the morbidity associated with this condition and the various surgical methods of management.

## CASE REPORTS

*Case 1:* NM. UCH No. 862800 is a 15-year old student who presented with a 2-year history of progressive generalised right breast swelling and pain. There were no other associated symptoms. Her menarche was in January, 1993 (that is 8 months before presentation).

Examination revealed a young girl with a pendulous firm, non-tender multinodular right breast which extended below the umbilicus (i.e. Grade IV ptosis) with enlarged areola and effaced nipple. A hypertrophic scar was noted in the upper circumareolar region and the axilla was normal.

The left breast though finely nodulated was otherwise normal (Figure 1).

A diagnosis of unilateral right virginal mammary hypertrophy with ptosis was made. Histology report of a biopsy done at the referral hospital said "dilated ducts with 2-3 layers of cuboidal cells, densely fibrotic stroma with occasional interlobular hyalinization consistent with a diagnosis of fibroadenoma, pericanalicular type."

She was then offered a reduction mammoplasty and at surgery 1200 gms of breast tissue showing grossly fibrocystic changes was resected with reconstruction done according to Mc Kisson's inferiorly pedicled lipodermal flap technique.

The post-operative course was uneventful and she remained well, 9 months later without evidence of recurrence (Figures 2 and 3).

Figure 1

Photograph showing N.M. supine immediately pre-op. Note the hypertrophied scar on the outer aspect of the superior circum-areola margin, the enlarged areola and the effaced nipple

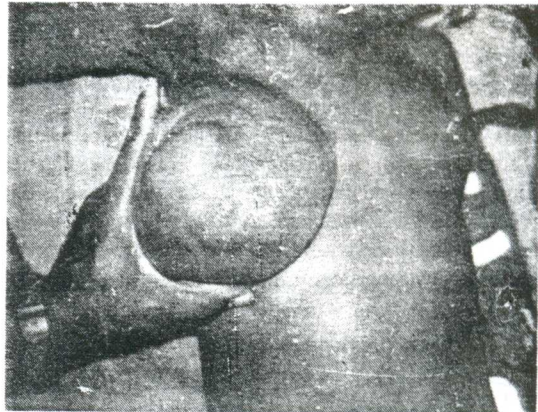
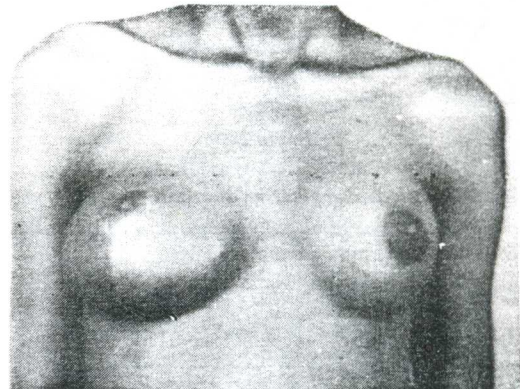


Figure 2

N.M. nine months post operation (frontal view)





**Figure 3**

N.M. 9 months post-op. (lateral view)



*Case 2:* O.M. (UCH NO. 866714) is a 22-year old lady with a 7-year history of generalised progressive left breast swelling which was initially painless but had in the last 2 years become painful. No other significant symptom. Her menarche was 7-years previously and she was Para O<sup>+</sup>.

On examination, a young lady with a Grade IV ptotic left breast, with a firm smooth mobile non-tender 14 x 12 cm mass occupying the outer quadrants of the breast was found. The nipple was effaced but the axillae and right breast were normal.

A diagnosis of giant fibroadenoma was made and patient was offered a reduction mammoplasty which was done according to a free nipple graft technique at which 590 gms of firm fibroadenomatous tissue was resected.

The histology report confirmed the clinical suspicion and patient has remained well 9 months later.

**Table 1***Regnault's classification of breast ptosis*

Minor:	Nipple at infra-mammary fold
Moderate:	Nipple below the fold but above lower breast contour
Major:	Nipple at lower breast contour
Pseudoptosis:	Nipple above fold, gland ptosis, hypoplastic
Glandular:	Nipple above fold, but breast has descended usually secondary to previous reduction mammoplasty

**Table 2***Modified classification of breast ptosis*

Grade I:	Nipple at infra-mammary fold
Grade II:	Nipple below infra-mammary fold but above lower breast contour
Grade III:	Nipple at level beyond Grade II but above the umbilicus
Grade IV:	Nipple at or below the level of the umbilicus

*Case 3:* R.A. is an 18-year old lady with an 18-month history of progressive painless generalised left breast enlargement.

On examination, she had a ptotic and hypertrophic left breast down to the umbilical level (Grade IV) while the right breast was also ptotic to the level of the inframammary crease (Grade I). A diagnosis of bilateral ptotic breasts with hypertrophy of the left breast was made and the patient offered a reduction mammoplasty. This was done according to the technique of Skoog (laterally-based lipodermal flap) and 540 gms of grossly dysplastic tissue was removed.

The post-operative course was complicated by epidermolysis of the nipple-areola complex which resolved with satisfactory epitheliasation.

## DISCUSSION

A random population survey in our environment will reveal that abnormalities of the size and position of the female breast are indeed a common problem. However, because of its non-debilitating nature, poor patients' and physicians' awareness of the condition and its treatment, poor availability of specialist plastic surgeons, low input of plastic and reconstructive surgery in many general surgery programmes and the poor socio-economic status of many of the sufferers, patients rarely present. However, when the condition results in gross disproportion in size of the 2 breasts coupled with fear of malignant disease, patients can be expected to present.

Breast hypertrophy and ptosis result in great social embarrassment and psychological morbidity for the sufferers(1). They may also cause a variety of symptoms such as mastodynia, sense of heaviness and fullness, poor posture with resultant back, neck and shoulder pain, shoulder grooving, brachial plexopathy(1), pathological changes of inadequate venous return(2) and stasis, such as serous exudation, eczema and ulceration, in the most dependent portion of the breast and in the infra-mammary fold.

The enlargement may also frustrate patients' ability to work and render the breasts unduly susceptible to trauma.

The patients usually present on account of breast enlargement and pain as illustrated by the cases presented especially when the breast is disproportionately enlarged. Apart from social and psychological morbidity, none of our patients had other symptoms.

Regnault(2) has proposed a classification of breast ptosis (Table 1) which we have modified (Table 2). While this strictly applies to ptosis, it is to be noted that hypertrophy is usually accompanied by some degree of the former, and the classification also helps in the choice of operation to use for treatment.

Current notions on the pathological basis of benign breast disorders suggest that they are mostly aberrations of normal development and involution hence the acronym ANDI. The breast undergoes several physiological changes starting from adolescence which are due to the influence of several hormonal and growth factors (3).

Alterations in the absolute and/or relative concentrations of these hormones and growth factors, their timing and local breast tissue receptor defect or difference in responsiveness is believed to be responsible



for the lesion produced. A consistent finding in previous reports is low plasma progesterone in the presence of normal plasma oestrogen and growth hormone levels(4).

These usually result in bilateral symmetrical breast enlargement whose history dates to adolescence, but it may occasionally be unilateral and may commence only after conception especially during the second trimester(4). unilateral hypertrophy may be more related to increased responsiveness of local oestrogen receptors to mammatrophic factors.

The resected specimen in our patients were reported as "fibroadenoma" which is consistent with the theories of Hughes, Mansel and Weber on ANDI(5).

The treatment offered, of which many techniques have been described, has three main aims:

- removal of excessive breast parenchyma;
- correction of the displacement of the nipple-areolar complex and;
- reconstruction of the stretched skin envelope and;
- occasionally removal of eczematous and/ or ulcerated skin(1).

The two main methods of achieving this are:

- pedicled lipodermal flap operation(6,7,8) and;
- free nipple graft operations(9)

The choice of method is guided by the size of the breast; a free nipple graft being preferable in Grades III and IV as the pedicle will otherwise be too long and that may jeopardise survival of the nipple-areolar complex; the presence or otherwise of any discrete intra-glandular or skin lesions, whether it is a recurrence and the surgeons own preference. It is to be noted however that lactation was possible in about 20% of patients who had free nipple graft compared to 60% in those whose graft was pedicled. Complications, including haematoma, seroma, nipple-areolar necrosis, skin necrosis, wound infection, fat necrosis and calcifications are rare while nipple-areola sensitivity is usually restored to some extent in most of the patients.

A third option, simple mastectomy and insertion of breast prosthesis is best reserved for intractable recurrent lesions(2).

While reduction mammoplasty may work because it reduces breast tissue below a critical mass (much like subtotal thyroidectomy and simple goitre), it is not yet possible to determine which patients are likely to suffer from recurrent disease. None of our patients has showed any sign of recurrence but this may be related to the shortness of our follow-up period. When it occurs

however, such recurrences can be managed by a repeat operation, subcutaneous mastectomy or drug therapy such as dydrogesterone(11), tamoxifen(12) and medroxy-progesterone acetate(13).

We believe that abnormalities of shape and or position of the female breast is a common and significant cause of morbidity in our environment and advocate increased awareness of the condition amongst primary care physicians whilst general surgery programmes should equip their residents to adequately tackle the problem.

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