ORIGINAL ARTICLE

Outcomes of Reduction Mammoplasty: Improvement in Symptoms of Macromastia

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ABSTRACT

Background: Breast hypertrophy, is a physically and psychologically disabling condition. It is the cause of a myriad of physical signs and symptoms to the patient, including neck and back pain, mastalgia and skin problems. Reduction mammoplasty is the surgical treatment of choice for this debilitating condition, and effectively improves patients' symptoms. This study aimed to share our experience of patients undergoing reduction mammoplasty for macromastia with respect to improvement of their physical symptoms.

Material and Methods: The relevant data of all patients who had reduction mammaplasty at Dept. of Plastic Surgery, Services Hospital, Lahore between January 2013 to December 2016 was retrospectively reviewed. Patient demographics, hypertrophy associated symptoms, procedure details and post procedure symptom improvement were recorded and analyzed.

Results: A total of 41 patients were included in this study. The average age at the time of reduction was 32 years. The average body mass index was 24.2kg/m^2. The average weight of the excision specimen was 1070g for the right and 1060g for the left breast. 5 patients had wound dehiscence, 3 patients had epidermolysis of the NAC, and 1 patient had partial necrosis of the NAC

Conclusion: Reduction mammoplasty effectively alleviates physical symptoms related to excessively large breasts.

Key words: Macromastia, Reduction Mammoplasty

Introduction

Breast hypertrophy is the consequence of a rare connective tissue disease that results in an excessive increase in breast size.The exact mechanism of its development is not well understood. Genetics, and an increased sensitivity to female hormones is thought to play a role[1,2]. It can be classified as gestational (onset in pregnancy), Juvenile (onset at puberty triggered by sex hormones), drug-induced, and Idiopathic. In the literature, different cut-off values have been stated to define the norms, as well as to define what constitutes gigantomastia. The most commonly used systems classify the excessive growth with respect to the amount of breast tissue requiring reduction. Excessive breast tissue <1500 grams per breast is termed macromastia. Where the excess breast tissue amounts to >1500 grams per breast it is labelled as gigantomastia.[3]

Reduction mammoplasty is the surgical treatment for enlarged breasts. Several different surgical techniques are described in textbooks for breast reduction in macromastia. All of these share a basic

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common principle, in that the NAC is carried on a pedicle of tissue, and a pre-planned quantity of breast glandular tissue is excised. The techniques differ in the type of pedicle utilized and is named accordingly[3-5].In the cases of gigantomastia, breast amputation, with free NAC graft is frequently utilized. Though this technique is versatile in leaving behind the desired amount and shape of breast tissue, often the nipple graft does not produce an aesthetically pleasing result. Many surgeons advocate use of superio-medial pedicle as a safe and effective option for breast reduction in gigantomastia.

Excessively large breasts cause many functional problems for the patient, that can considerably affect quality of life. Some common symptoms are mastalgia, back, shoulder and neck pain, pruritis and skin maceration on or under the breast[6,7] The increased weight of the breast creates an unpleasant downward pull on the soft tissue structures ofthe upper torso.[8], It has been demonstrated that breast hypertrophy causes demonstrable disturbances to spinal angles and gait in women living with this condition[9].

In the present study, we share our experience of symptom improvement in patients undergoing reduction mammoplasty for symptomatic breast hypertrophy

Material and Methods

A retrospective review of all patients with macromastia who underwent reduction mammoplasty at Dept. of Plastic Surgery, Services Hospital, Lahore between January 2013 to December 2016 was performed.

Exclusion Criteria:

Patients with resection weights of <500 grams per breast.

After obtaining informed consent, an extensive chart review was performed. Patient demographics including age, weight, and BMI were recorded. Resection weight (measured per-operatively) were recorded for each side. Post-operatively complications, specifically wound dehiscence and NAC appearance were noted. All patients completed at least 6 months of follow-up. Incidence of commonly reported symptoms was assessed and recorded. The presence of these same symptoms was inquired for after surgery. All data was entered on excel sheets and analyzed using SPSS v 20.

Results

A total of 41 patients were included in this study. The average age at the time of reduction was 32 years. The average body mass index was 24.2kg/m^2.

25 patients underwent inferior pedicle breast reduction, and 16 patients underwent supero-medial pedicle technique. The per-operative resection parameters are depicted in table 1.

There were 5 incidences of wound dehiscence, 4 of NAC epidermolysis and 1 of partial necrosis of the NAC. The details are depicted in table 2

Anxiety, neck, shoulder and upper back pain along with skin pathologies were the most frequently reported symptoms. Presence of these same symptoms was inquired 6 months after surgery. There was a marked reduction in occurrence of these symptoms (Table 3).

	Mean Resection weight (grams)		
	Inferior pedicle	**Superomedial pedicle**	**Overall**
Right breast	880	1370	1070
Left breast	850	1390	1060

Table 1: resection parameters

N	Complication	Management
4	NAC epidermolysis (1 unilateral, 3 bilateral)	Conservative
1	Partial NAC necrosis, (unilateral)	Conservative
5	Wound dehiscence	4 managed conservatively 1 required wound closure under LA

Table 2: complications and their management

	Pre-operatively n(%)	**Post-operatively** n(%)
Anxiety	24(58)	3 (7)
Shoulder pain	35 (85)	6 (14)
Neck/upper back pain	37 (90)	8 (20)
Breast related skin problems	28 (68)	6 (14)

Table 3: Symptoms before and after surgery

Discussion

Large breasts are a source of psychosocial embarrassment for the patient. More importantly they are the cause of many physical symptoms[1-2]. Symptoms vary in severity, and include upper back and neck pain, shoulder pain, painful shoulder grooves, poor posture, mastalgia, and intertrigo of inframammary region[9]. The increased overall mass of the breast produces a downward and potentially painful drag on the nerves and muscles of the upper back.[6,7] including the greater and lesser occipital nerves as reported by Mosser et al.[8].

Breast enlargement is treated surgically with reduction mammoplasty which results in both improvement in physical symptoms as well as in psychosocial well-being as shown by our study. Other studies have also demonstrated high post-operative satisfaction rates with this procedure.[9,10]

The mean age and BMI in this group of females was 32 years and 23.2kg/m^2 respectively, and these values are comparable to those seen in other studies[12].

Mean overall resection weight (measured to the nearest 10g) were 1070 gm and 1060g for the right and left breasts, respectively. Higher mean resection weights were achievable using the superomedial technique. The reason is that the surgeon is more likely to opt for this technique with relatively larger breasts that will likely require a larger resection.

There were 10 incidences of post-operative complications in 7 patients. 4 patients had superficial NAC epidermolysis. All improved significantly with conservative management. I patient had partial nerosis of

NAC. This patient had an excessively large breast, falling under the category of gigantomastia. This too was managed conservatively. Of the 5 patients who had wound dehiscence, only one required re-repair under local anesthesia. The remaining 4 were minor and managed conservatively.
Significant improvement in symptoms were seen following reduction mammaplasty especially shoulder, neck and upper back pain.

Conclusion

Reduction mammoplasty is the treatment of choice for patients with symptomatic macromastia and effectively alleviates the physical symptoms of this condition.

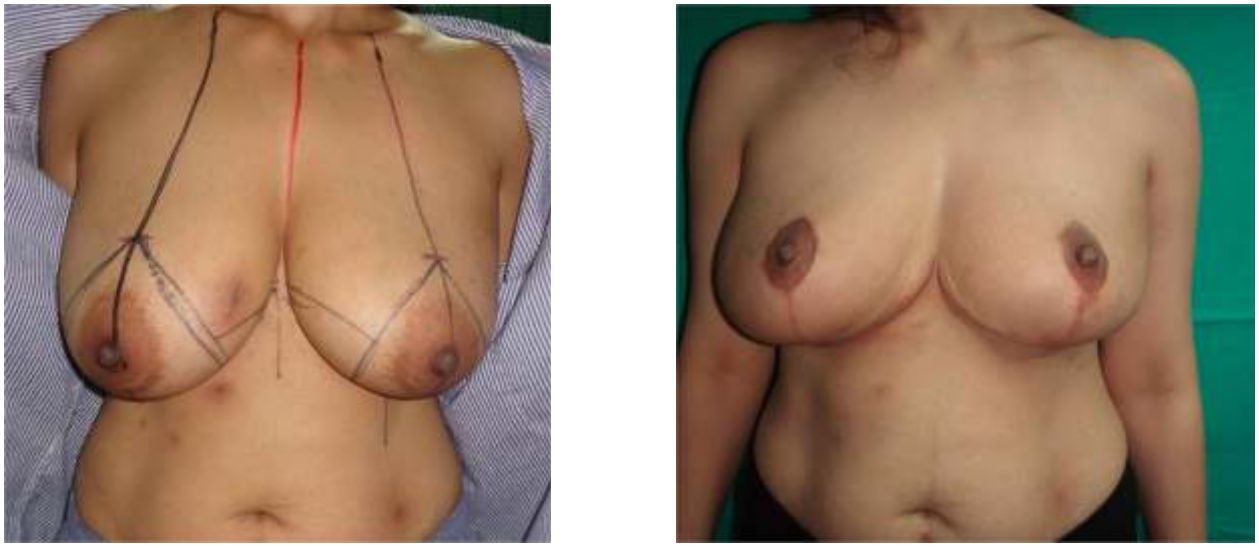

Figure 1a and 1b: pre & post-operative pictures of a 36 year old patient who underwent inferior pedicle breast reduction

Figure 2a & 2b: Pre- and post-operative pictures of a patient who underwent supero-medial pedicle breast reduction

Fig 3a & 3b: pre- & 2 months post-operative pictures of patient who underwent breast reduction with supero-medial pedicle. She developed right partial nipple necrosis. This was managed conservatively, however, she was left with a smaller NAC on the affected side.

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