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Audit of Biphasic Single Surgeon Experience of Bilateral Reduction Mammoplasty in a Single NHS Unit

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ABSTRACT

Biphasic experience of bilateral reduction mammoplasty performed by a single surgeon (Mr El-Deeb) over two phases (each phase is about 2 months) in the year 2003 in a single NHS unit is audited. Altogether 18 patients (36 breasts) were studied. Demographic details, medical history and examination, operative details, hospital stay, histopathology report, early and late complications were retrieved from the case notes. Median follow-up was 6 months (Range 4-12 months). All patients were invited to the follow-up clinic and asked to fill out a questionnaire including physical, satisfaction and ward environment scores. Preoperative and postoperative photographs were assessed independently by a panel of blinded doctor, nurse and a lay observer. Overall functional and aesthetic outcome was very good as reflected by the physical and satisfaction score. Complication rate was comparable with published studies except a slightly higher rate of superficial skin wound infection during the second phase. There was one incident of postoperative haematoma where the hypotensive anaesthesia was maintained all through the operation. Reverting to normotension during haemostasis is recommended to prevent the occurrence of haematoma. Continuing medical education for nurses and patients stressing the implication of pre- and post-operative showering, hygienic measures and proper wound management is necessary to reduce the incidence of superficial wound infection.

INTRODUCTION

Reduction mammoplasty is probably the commonest plastic surgical procedure performed under general anaesthesia in the NHS and the private practice in the U.K., the history of which can be traced to mid 19th century in the form of correction of ptosis only. Gradually this progressed to the nipple-areolar complex transposition and finally to the de-epithelialized pedicle flaps. More recently, refinements in the breast reduction surgery considered skin incision and pedicle design to preserve the vascularity of the operative field and to place the scars in more aesthetic sites. The goal of such procedure is to achieve natural looking symmetrical breasts with minimal scarring **[2,3]**.

Irrespective of the techniques, surgeon, patient and other circumstances, there is always a scope of improvement to obtain the best aesthetic and functional outcome for which regular audits and re-audits are necessary in this particular field **[7-9]**. Therefore, we have conducted an audit of the biphasic experience of all bilateral breast reductions performed by a single surgeon (Mr El-Deeb) in a single NHS unit during 2 periods of time.

PATIENTS AND METHODS

Biphasic single surgeon experience is based on the operation of bilateral breast reduction performed by the senior author in a total of 18 patients (36 breasts) in two phases during 2003 (1st phase was January 03 to March 03 and the 2nd phase was October 03 to December 03). Demographic details, medical history and examination, operative details and post-operative complications were retrieved from the case notes (Table 1). Median follow-up was 6 months (Range 4-12 months). All patients were reviewed in the follow-up clinic and asked to fill out a questionnaire based on the physical score, satisfaction score and the ward environment score (Table 2). Finally the pre-operative and the post-operative photographs were assessed by a blinded lay observer, a blinded nurse and a blinded doctor and scored on a 0-10 visual analogue scale (VAS) for overall appearance, symmetry and scar.

RESULTS

Most of the patients were multiparous with macromastia or gigantomastia (Table 3). Back pain was the commonest symptom present in all patients followed by discomfort from bra-straps and shoulder pain (Table 4). The associated medical problems were Type 2 Diabetes in one patient, Protein S Deficiency in one patient and Erythema Nodosum on Steroids in one patient. Most of the patients were operated upon by the inferior pedicle technique (n=16) with slightly longer operating time (median 180 minutes) compared to the supero-medial technique (n=2, median operating time 150

minutes). Mean tissue removed from one breast by the inferior pedicle technique was 960 gm (range 405-2567 gm) and that by superomedial technique was 370 gm (range 249-676 gm). In all patients, no surgical drains were inserted.

The systolic/diastolic blood pressure was kept hypotensive deliberately by the anaesthesists during the operation (range 86/56-96/62 mmHg). This was reverted to normotension (range 110/70-118/76) during haemostasis, except in one patient, where the hypo-tensive anaesthesia was maintained all through the operation, who developed postoperative haematoma that was explored and evacuated.

Median postoperative hospital stay was 1 day (range 1-6 days). The histopathology report confirmed normal breast tissue in all patients except one where the evidence of fat necrosis was found in the diabetic patient.

The postoperative complications comprised one case of haematoma and one case of fat necrosis (2.7% of all breasts). There was an incident of one case of pneumothorax resulting from intrapleural block and a reduced sensitivity of the nipple-areola in one breast. Superficial skin wound infection was found in five cases (13.8% of all breasts). Culture confirmed the growth of Staphylococcus Aureus in only one patient and no growth in two patients because they were already started on antibiotics by the general practitioner. Swabs were not sent in two patients because there was no discharge and the cellulitis was treated by intravenous antibiotics. There was no evidence of any asymmetry, dog ears, nipple-areolar necrosis or loss of nipple-areolar sensitivity. Localized fat necrosis occurred in a patient with poorly-controlled diabetes who required two post-operative wound debridements.

One patient returned to theatre during the night for the index of suspicion of haematoma, suspected by ward staff and a specialist registrar, but on exploration no haematoma was found. Only one superficial skin wound infection occurred at the T-junction, two in the vertical limb and two in the horizontal scar. All of them were treated conservatively with dressings with median healing time of 3 weeks.

The physical score obtained from the questionnaire revealed improvement of symptoms in all catagories (Table 5). The satisfaction score achieved from the questionnaire confirmed high satisfaction rate (Table 6). The ward environment questionnaire revealed that seven patients were advised by the ward staff not to shower for four weeks after the operation and three patients for two weeks.

The median score obtained from the photographic assessment in all three categories showed most of the scores in “excellent” and “very good” range with no scores in “fair” or “unsatisfactory” range (Tables 7,8,9).

Table (1):BBR audit-a single surgeon experience.

Hospital No.:
- Age
- Parity
- BMI
- Cup Size

Pre-op complaints:
- Nek pain
- Shoulder pain
- Back pain
- Intertrigo

Associated medical problems:
Date of operation:

Approach:
- Pedicle

Breast tissue removed:
- Right
- Left

Operation time:
Blood pressure during operation:
Drains: Yes/no

Early complications:
Haematoma/seroma/nipple-areolar complex necrosis.

Late complications:
Asymmetry/dog ears/scar problems/nipple sensation.

Infection (if any):
- -Ward environment
- Wound infection
  - Superficial/deep
- Delayed healing

Histopathology report

Table (2): BBR outcome study questionnaire.

BBR outcome study questionnaire:
physical score (visual analogue scale 0-10) (VAS)

Score 0 Minimum
10 Maximum

	Pre-op.	Post-op.
Back pain:		
Neck pain:		
Skin rash:		
Discomfort (bra strap):		
Tendency to stoop:		
Comfortable sleeping:		
Relationship:		

Satisfaction score
0- Not satisfied at all
10- Fully satisfied

Expectations: VAS (0-10)
Overall result: VAS (0-10)
Effect on life: VAS (0-10)
Scarring: VAS (0-10)

Ward environment and advice
Ward environment: (VAS 0-10)
Dressing advice by nurses:
Showering advice by nurses:

Table (3): Demographic details.

	Median	Range
Age (yrs)	35	25-65
Parity	2	1-4
BMI	26	22-31
Cup size	F	E-HH
S-N dist. (cm)	31	28-41

Table (4): Pre-operative complaints.

Pre-operative complaints		
Back pain	18	100%
Neck pain	9	50%
Discomfort from BRA-strap	9	50%
Shoulder pain	7	38.4%
Tendency to stoop	7	38.4%
History of intertrigo	4	22.2%

Table (5): Physical score achieved from questionnaire.

	Pre-op (median score)	Post-op. (median score)
Back pain	9	0
Neck pain	4	1
BRA-strap Discomfort	9	0
Stoop	9	0
Skin rash	5	0
Migraine	10	2

Table (6): Satisfaction score achieved from questionnaire.

	Median	Range
Overall result	10	8-10
Effect on life	9	9-10
Scarring	9	8-10
Symmetry	10	9-10

Table (7): Photographic assessment by a nurse.

Score	Overall	Symmetry	Scar
0-2	0	0	0
3-5	0	0	0
6-8	6	7	6
9-10	12	11	12

Table (8): Photographic assessment by lay observer.

Score	Overall	Symmetry	Scar
0-2	0	0	0
3-5	0	0	0
6-8	8	8	7
9-10	10	10	11

Table (9): Photographic assessment by a doctor.

Score	Overall	Symmetry	Scar
0-2	0	0	0
3-5	0	0	0
6-8	5	6	6
9-10	13	12	12

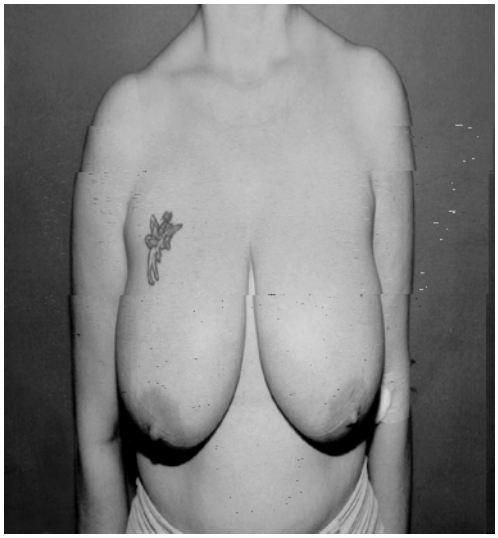

Fig. (1-A): Preoperative view of patient 1 with gigantomastia.

Fig. (1-B): Postoperative front view of patient 1 showing optimum correction and symmetry.

Fig. (1-C): Postoperative oblique view of patient 1 showing good projection.

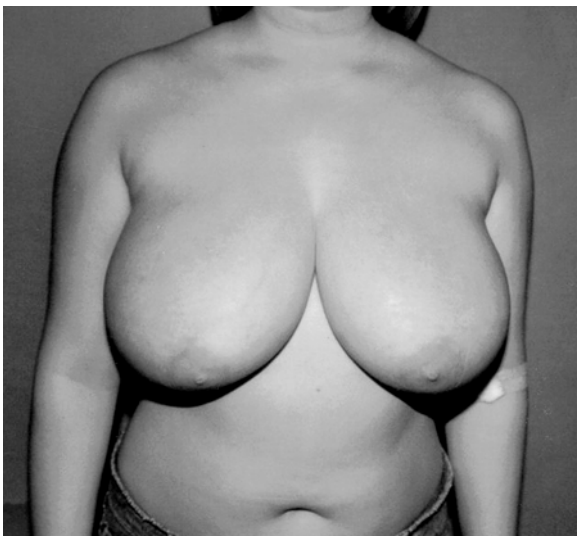

Fig. (2-A): Preoperative front view of patient 2.

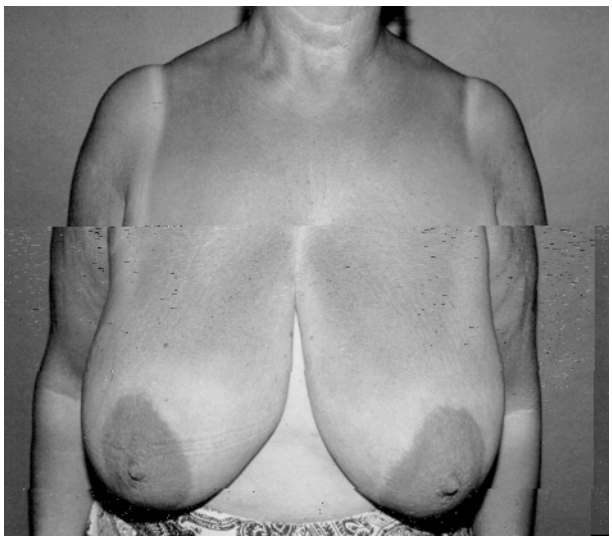

Fig. (3-A): Preoperative front view of patient 3.

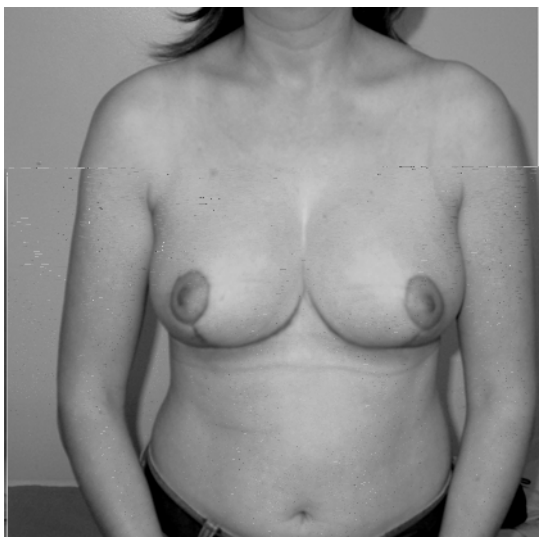

Fig. (2-B): Postoperative front view of patient 2.

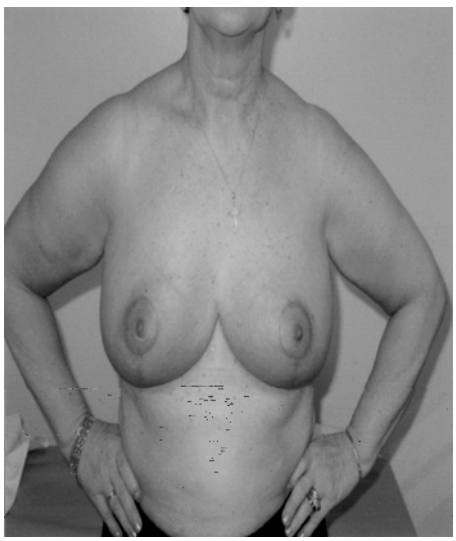

Fig. (3-B): Postoperative front view of patient 3.

Fig. (2-C): Postoperative oblique view of patient 2.

Fig. (3-C): Postoperative oblique view of patient 3.

DISCUSSION

Breast reduction surgery not only benefits in the aesthetic appearance but also can improve the functional outcome significantly **[4-6]**. Miller et al., reported 93% decreased in the symptoms in 133 patients supported by Dabbah et al., who noted improvement in symptoms in 97% **[1,10]**. In our study, all patients were benefited functionally with 100% improvement in the symptom of back pain.

The aesthetic outcome was very good as suggested by the high patient satisfaction score (median 9 in visual analogue score 0-10) and consistent high score in terms of symmetry, overall appearance and scar by all the three groups of blinded observers.

Our complications were comparative to those reported in the literature in terms of haematoma, seroma, fat necrosis or deep infection **[4-6]**. However, the incidence of superficial skin wound infection was slightly higher, all of which occurred in the 2nd phase of the study. Interestingly, showering was not advised in the majority of our patients by the nurses which on the contrary should be highly recommended before and a few days after this operation. The myth of "keeping the wound dry" for two or more weeks should be avoided and replaced by proper hygiene, showering and cleansing. Continuing education is recommended for the nurses for achieving aseptic and antiseptic techniques, dressing and management of infected and clean wounds. Information sheets can also be handed over to the patients in the consultation clinic regarding the prophylactic anti-infection measures, such as, showering religiously before and a few days after the operation.

The blood pressure should be reversed to normotensive or near-normotensive level from hypotensive anaesthesia during haemostasis to minimize the incidence of postoperative haematoma.

Proper control of diabetes is mandatory for any major surgical procedure. The chance of infection is significantly high in a poorly controlled diabetes patient, as reflected in our diabetes case. Both junior doctors and nurses should be prompt in the peri-operative management, if necessary, with the appropriate advice of the senior diabetologists.

The aim of audit is to improve the patient care by in-depth assessment of every complication. We believe the implementation of changes suggested by this study can significantly improve the aesthetic and functional outcome of reduction mammaplasty with the achievement of best clinical standards.

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