Breast reduction surgery in the UK and Ireland – current trends

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ABSTRACT

INTRODUCTION This paper reviews the current status of bilateral breast reduction surgery in the UK and Ireland. It examines the pre-operative, operative and postoperative management of women.

PATIENTS AND METHODS A questionnaire established information about surgeons' experience, bilateral breast reduction workload, pre-operative assessment, selection criteria, issues of operative technique and postoperative management. This was sent to 230 consultant plastic surgeons working in the NHS in the UK and Ireland.

RESULTS There was a 61% response rate. Of respondent surgeons, 82% always perform pre-operative photography, 71% never do a mammogram even in patients above the age of 50 years. Body mass index (BMI) is the most commonly used criteria for patient selection (60%). Two-thirds of the surgeons use an inferior pedicle technique and 75% of surgeons work in health authorities that restrict breast reduction surgery.

CONCLUSIONS There was significant variation in practice among surgeons performing bilateral breast reduction. This may reflect a lack of evidence base for practice. Published literature focuses almost exclusively on the description of different techniques. Further work is required to evaluate the role of pre-operative mammography, specimen mammography, antibiotics and selection criteria for surgery.

KEYWORDS

Bilateral breast reduction – Audit – Pre-operative assessment – Selection criteria – Operative technique – Postoperative management

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Women seek breast reduction surgery for treatment of symptoms of mammary hypertrophy. These include upper-body aches and pains and negative psychosocial consequences.^{1,2} The use of breast reduction surgery has become increasingly restricted by health authorities.³ This has implications not only for patients but also for higher surgical trainees; bilateral breast reduction is a level three training procedure for trainees with an interest in breast surgery. Furthermore, bilateral breast reduction has an important role in breast conservation surgery utilising oncoplastic techniques.

The goal of the survey was, therefore, to determine which areas of management of breast reduction patients were consistent and which were variable by a body of plastic surgeons. Areas studied included pre-operative, operative and postoperative management in women undergoing breast reduction surgery.

Patients and Methods

Questionnaire

A questionnaire was designed to establish information about personal characteristics, clinical workload, pre-operative assessment and selection criteria, operative technical issues as well as postoperative management. The questionnaire was designed by a team which comprised a clinical research fellow, consultant plastic surgeon and an academic breast surgeon. Upon completion, a preliminary questionnaire was sent to four plastic surgeons. Based on their recommendations and advice, the final questionnaire was constructed.

A total of 230 questionnaires were sent to consultant plastic surgeons with prepaid self-return envelopes; no reminders were sent due to time constraints.

Analysis

Statistical analysis was undertaken using SPSS v.11, Mann-Whitney, Pearson chi square and Kruskal-Wallis tests.

Results

Response

A total of 230 questionnaires were sent to all plastic surgical consultants in the UK and Ireland; 140 questionnaires were returned, a response rate of 61%.

Pre-operative management

WORKLOAD

Of respondent surgeons, 38% performed less than 20 breast reductions per year; 32% performed 20–29; 15% performed 30–40; and 15% performed more than 40 per annum. There was no correlation with length of time spent as consultant.

PRE-OPERATIVE ASSESSMENT

Overall, 82% of surgeons always took a pre-operative photograph, 8% occasionally but 4% never took pre-operative pictures of the breast. Likewise, 36% always took a postoperative picture, 24% often, 34% occasionally while 6% never took a postoperative photograph.

In addition, 72% never performed a pre-operative mammogram, 28% only do a mammogram once before the operation and only one surgeon did a mammogram before and 6 months after the operation.

SELECTION CRITERIA

Of surgeons, 58% never requested psychological testing for breast reduction patients, 38% very occasionally, while 4% routinely request psychological testing (5 responders). Of respondents, 69% used body mass index (BMI) routinely to select patients for breast reduction, 13% never used BMI, and 18% occasionally used BMI. Only two surgeons used psychological testing (1.5%) to select patients, while 8% did not use any selection criteria. The remaining 30% used 'experience' from clinical assessment as a means of patient selection. Psychological testing requires a formal consultation with a psychologist and often involves the use of various self-report psychological tools and questionnaires.

Operative management (technique and adjuncts)

Of consultants, 47% never gave antibiotics, a quarter occasionally gave them, 7% often gave them while 46% always gave at least one dose of antibiotics. Of those who used antibiotics, two-thirds gave one dose only, while a third gave 3 doses.

Of the consultants, 67% used the inferior pedicle technique, 10% used the Lejour technique, 4% the McKissock technique, while a fifth used a variety of methods depending on the patient.

LIPOSUCTION

Of consultants, 43% never used liposuction as an adjunct, 46% occasionally used liposuction while 9% used it often. Only two surgeons always used liposuction.

RE-DO BREAST REDUCTION

Less than 5 free nipple graft (FNG) techniques were done by 90% of consultants overall, 9% performed 11–20, and only one consultant had done more than 20 free nipple grafts.

PRE-EMPTIVE ANALGESIA

Of surgeons, 69% routinely infiltrated with local anaesthetic while under a third never used local anaesthetic; 19% never used adrenaline solution while a third always used it.

DAY CASE

Overall, 93% never did patients on a day-case basis, 6% did less than 25% of patients as day cases while only two consultants did more than 75% of patients as a day case.

Postoperative management

HISTOPATHOLOGY

Of consultants, 82% always sent all resected tissue for histological examination, 8% often did while 10% of the consultants either never did or occasionally sent tissue. In addition, 45% had never seen incidental breast cancer, 53% had seen less than five cases while only 1 consultant had seen more than 10 cases.

SPECIMEN MAMMOGRAPHY

Overall, 88% never practiced specimen mammography, 4% occasionally did while 5% always did.

DRAINS

Of surgeons, 79% always used drains, 11% often did while 10% either never or occasionally used drains; three-quarters of surgeons used postoperative support with a bra dressing.

HEALTH RATIONING

Of the respondents, 75% worked in health authorities that restricted provision of bilateral breast reduction.

Discussion

The majority of published work regarding bilateral breast reduction relates, almost exclusively, to technical issues such as the description of various techniques in addition to retrospective case series. Since the level one evidence base in the literature is relatively sparse, this study set out to

assess the current trends relating to bilateral breast reduction in the UK and Ireland.

Inferior pedicle bilateral breast reduction is the most popular technique used. This is not surprising since it is versatile, and relatively easy to teach and learn. The results are also predictable.

With increasing restriction of bilateral breast reduction, rationing has become inevitable; however, the choice of selection criteria remains a management problem. There is a need for standardised selection criteria that are evidence-based. To date, work in the literature that has examined BMI has all concluded that most macromastia patients benefit from bilateral breast reduction regardless of BMI.^{1,2,4-6} Other authors have demonstrated that weight loss does not relieve the symptoms of macromastia.⁷⁻⁹ The most recent work to address this issue showed a positive correlation between obesity and benefits of breast reduction; the most obese patients had the most benefit from bilateral breast reduction as evidenced by improved lung function, quality of life and better psychosocial status.¹⁰ In addition, the female breast has powerful symbolic significance and is a vital part of femininity, sexuality and nurturing, while breast reduction is an operation which cuts, scars, changes and desensitises this part of a woman's body. It is well documented that some women develop negative psychological sequelae following bilateral breast reduction;¹¹ based on these studies, it could be argued that psychological testing is a better and fairer means of selecting patients who will benefit the most from bilateral breast reduction rather than BMI. Our survey confirmed that only two surgeons regularly use psychological testing while the majority of surgeons (69%) use BMI.

The value of pre-operative and postoperative mammography is documented;^{12,15} however, our study demonstrated that only two surgeons routinely carried out a mammography prior to, and 6 months after, bilateral breast reduction.

One of the few placebo-controlled, randomised trials on bilateral breast reduction (addressing the role of adrenaline and local anaesthetic) demonstrated the efficacy of adrenaline in reducing both intra-operative and postoperative bleeding, while the use of local anaesthetic demonstrated reduced postoperative pain.¹⁴ This survey revealed that only 30% use adrenaline while 30% do not infiltrate with local anaesthetic.

In the study group, 54% surgeons either never or only occasionally used antibiotics, while 46% used antibiotics regularly; this is not surprising since there is no level one evidence on the role of antibiotics in bilateral breast reduction.

Free nipple graft (FNG) is rarely done today, perhaps the only use is in cases of very severe macromastia with considerable ptosis; this work confirms this pattern – 90% of surgeons had done five or less in total.

Liposuction has gained increasing popularity since it can be used for fine contouring towards the end of the procedure or

in the aftermath of surgery. In our study, only two surgeons used liposuction regularly, 43% never used it while 46% only used liposuction occasionally.

Incidental breast cancer is a potential problem that is well documented in the literature.¹⁵ Bilateral breast reduction specimens are relatively large and often have to be examined by random sampling. Specimen mammography offers a less time consuming option by directing pathologists to areas of concern or microcalcification.¹⁶ In this study, 88% of surgeons did not use specimen mammography.

In our cohort, 75% of surgeons worked in health authorities that restricted access to bilateral breast reduction. This has implications for training of future oncoplastic breast surgeons in the UK and Ireland since bilateral breast reduction has a significant application in breast conserving surgery.

A higher response rate would have been desirable although the 61% who responded are fairly representative of the group studied. The focus of this study was plastic surgeons since we wanted a homogeneous group of surgeons who traditionally perform bilateral breast reduction surgery. Some breast surgeons perform the procedure while a significant proportion do not; thus, it would have been technically difficult to select those to survey had the remit been broadened to include breast surgeons. There is no doubt that a future survey should include oncoplastic surgeons.

Conclusions

Breast reduction surgery accounts for a significant proportion of a plastic surgeon's workload. This survey has shown great variation in the availability of this service and in most aspects of management of the breast reduction patient. Further research is needed in various aspects of bilateral breast reduction to improve the available evidence in the literature. There is also a need to develop evidence-based selection criteria in order to identify those who will benefit most from this surgery in an age of health rationing. Finally, to ensure equity, there is a requirement for uniformity of health policy across the board for the provision of breast reduction surgery in the National Health Service in the UK.

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