

A NEW METHOD FOR MACROMASTIA CORRECTION- COMBINATION OF LIPOSUCTION WITH INFERIOR PEDICLE REDUCTION



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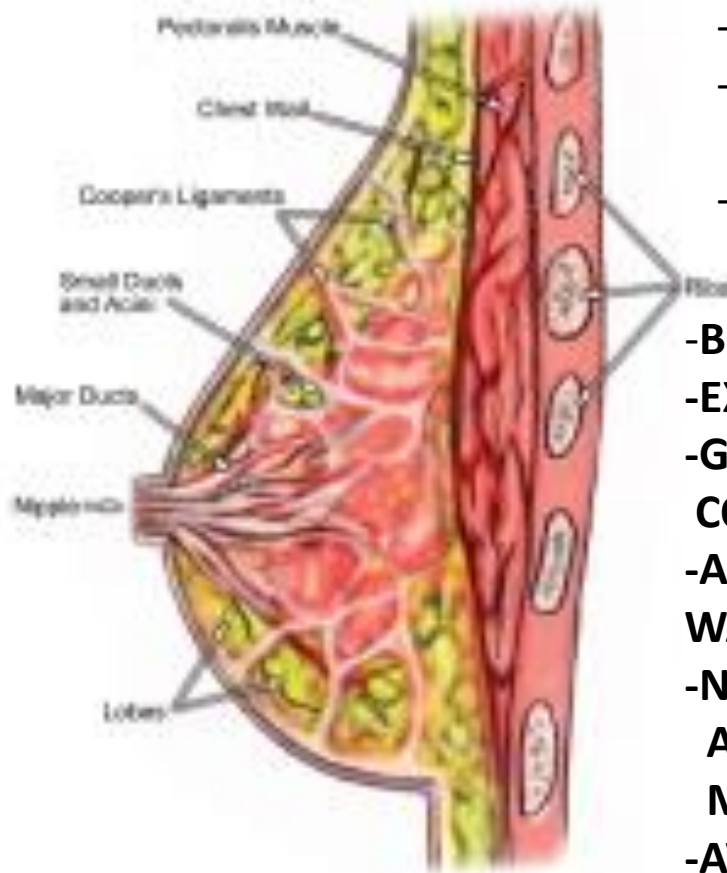
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BREAST REDUCTION

“Defined as the surgical reduction of breast volume to achieve a smaller , aesthetically shaped breast mound with concomitant relief of potential symptoms of mammary hypertrophy.”



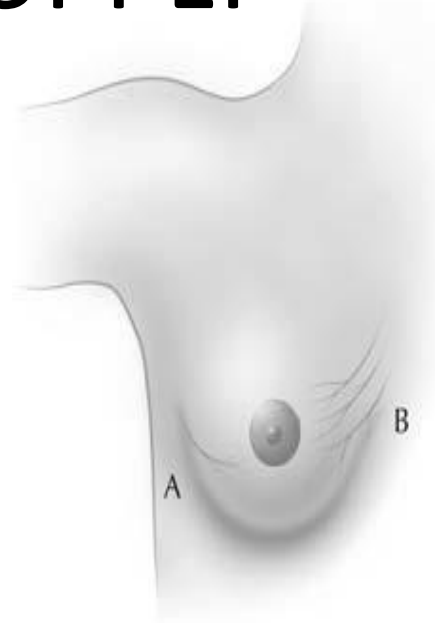
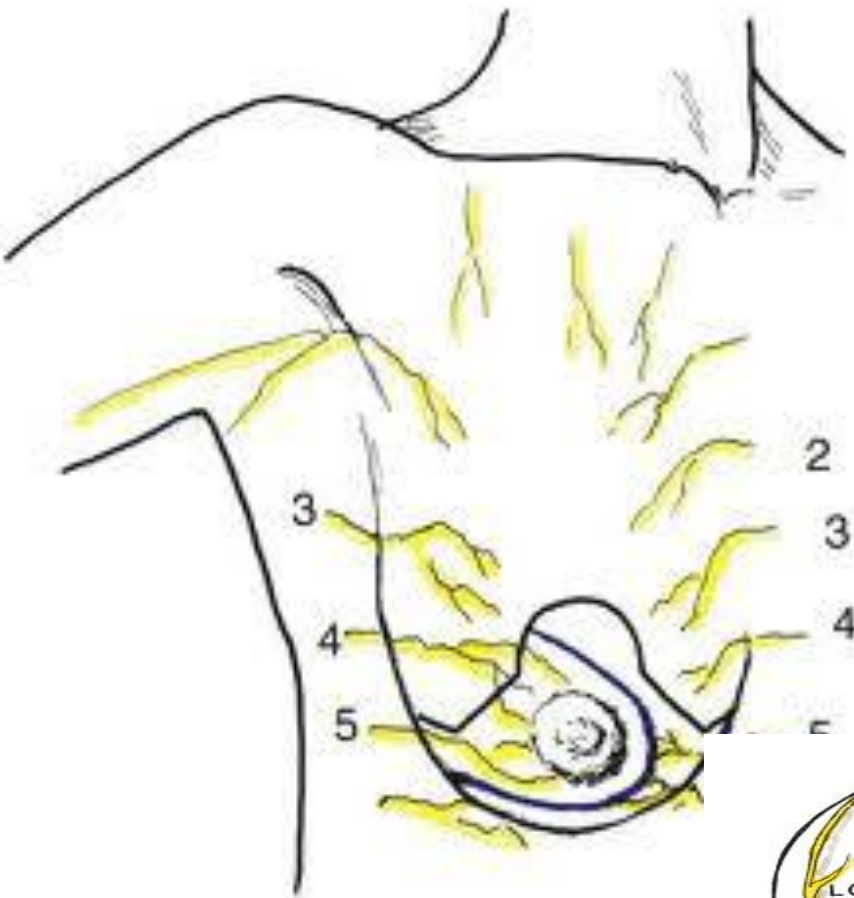
BREAST ANATOMY



- **Mammary ridge** develops in **6th week IU life**.
- **16 weeks** ecto-derm penetrates the mesoderm forming 20 **lobules**.
- **28 weeks acini** develops.

- **BREAST BED- PECT. MAJOR + RECTUS ABD**
- **EXTENDS FROM 2ND TO 6TH RIBS**
- **GLAND IS ANCHORED TO PECTORAL FASCIA BY COOPER'S LIGAMENT.**
- **AXILLARY TAIL OF SPENCE ENTERS INTO MEDIAL WALL OF AXILLA.**
- **NIPPLE LIES ABOVE THE INFRA-MAMMARY CREASE AT THE LEVEL OF 4TH RIB JUST LATERAL TO MID-CLAVICULAR LINE.**
- **AVG NIPPLE TO STERNAL NOTCH MEASUREMENT 21-22 CM**
- **EQUILATERAL TRIANGLE IS FORMED BETWEEN THE 2 NIPPLE & STERNAL NOTCH.**
- **NIPPLE TO INFRA MAMMARY CREASE LENGTH 7CM**

NERVE SUPPLY

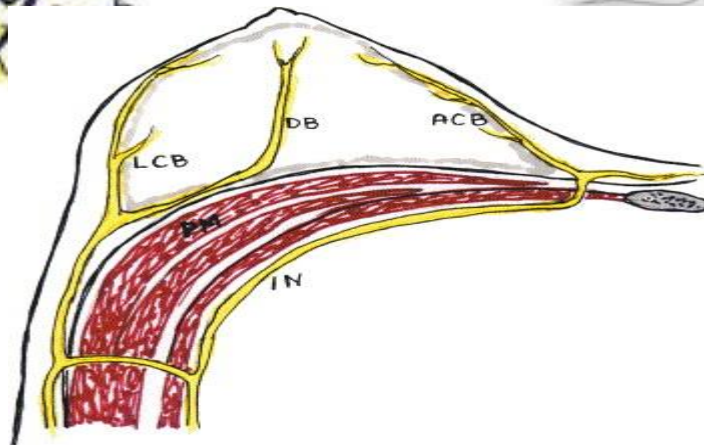


A = 4th intercostal nerve

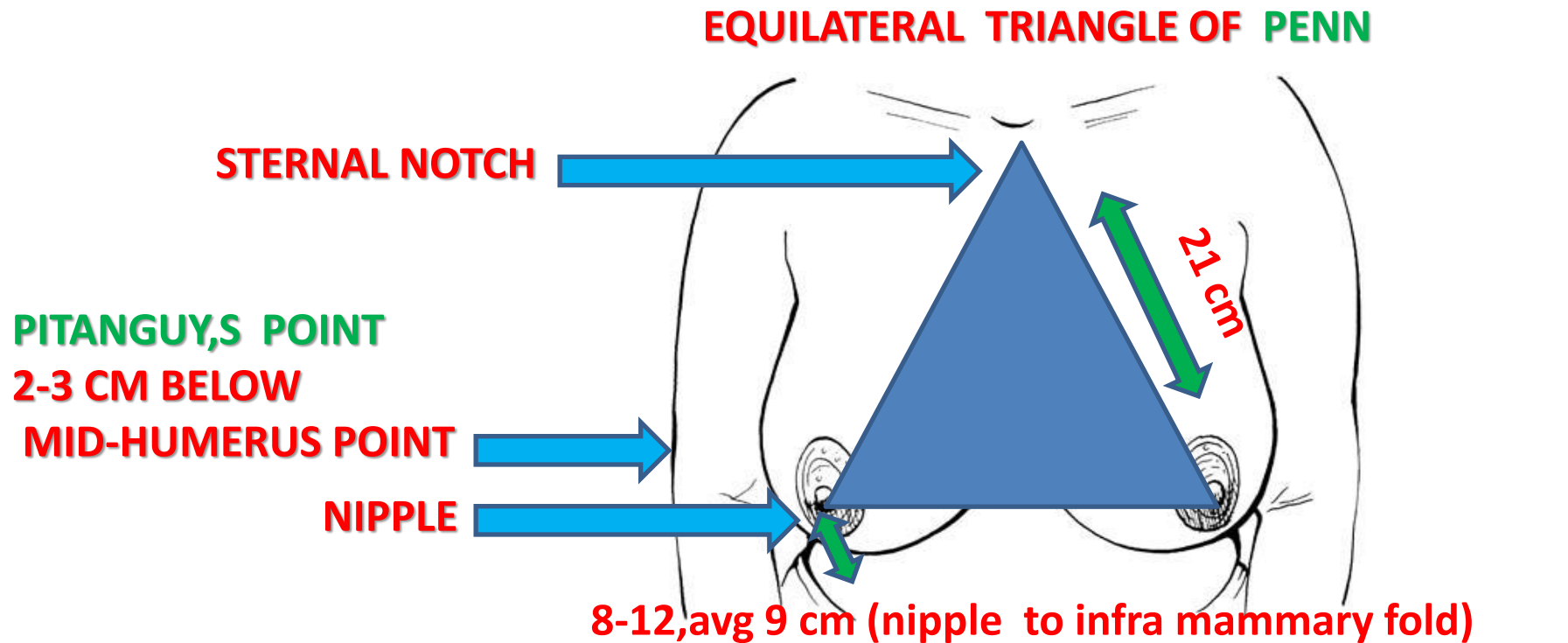
B = medial intercostal
(anterior cutaneous) branches



Medial



DETERMINING THE NIPPLE LOCATION & SIZE



Avg. areolar diameter is 38-45 mm & nipple elevation is Avg 5 mm

COMMON INDICATIONS

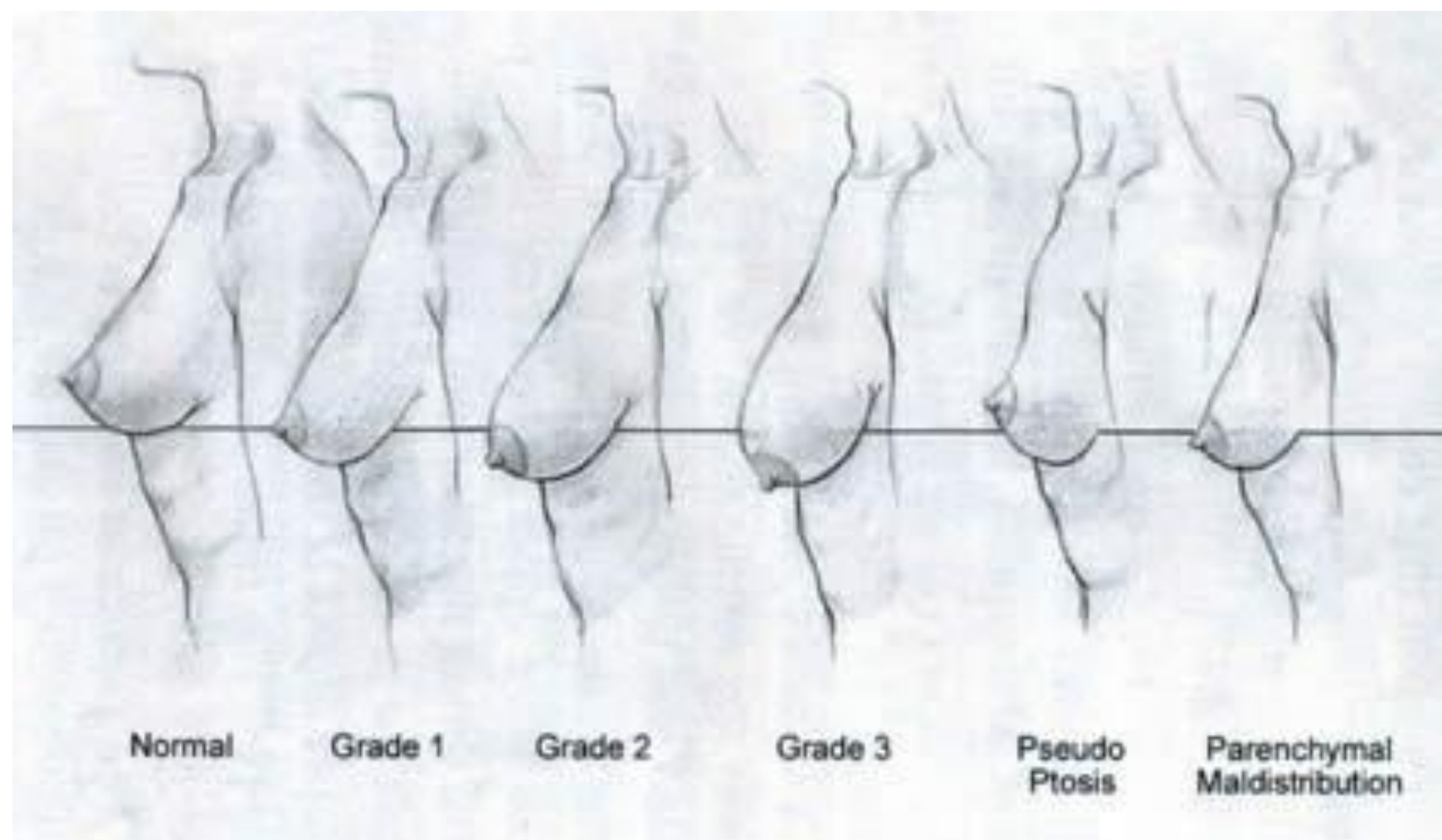
- 1. PERSONAL EMBRRASSMENT & PSYCHOLOGICAL PROBLEMS.**
- 2. SHOULDER AND BACK PAIN.**
- 3. GROOVING OF THE SOFT TISSUE OF THE SHOULDERS BY THE BRA STRIPS.**
- 4. CHRONIC INFRAMAMMARY SKIN BREAKDOWN , RASH, OR INFECTION (INTERTRIGO) .**
- 5. INABILITY TO ENGAGE IN VIGEROUS EXERCISE.**
- 6. SYMPTOMS OF BRACHIAL PLEXUS COMPRESSION (RARE).**

PTOSIS OF NIPPLE

Grade I: Mild ptosis (the nipple is below the IMF, but above the lower pole of the breast)

Grade II: Moderate ptosis (the nipple is below the IMF; yet some lower-pole breast tissue hangs lower than the nipple)

Grade III: Severe ptosis (the nipple is far below the IMF; no breast tissue is below the nipple).

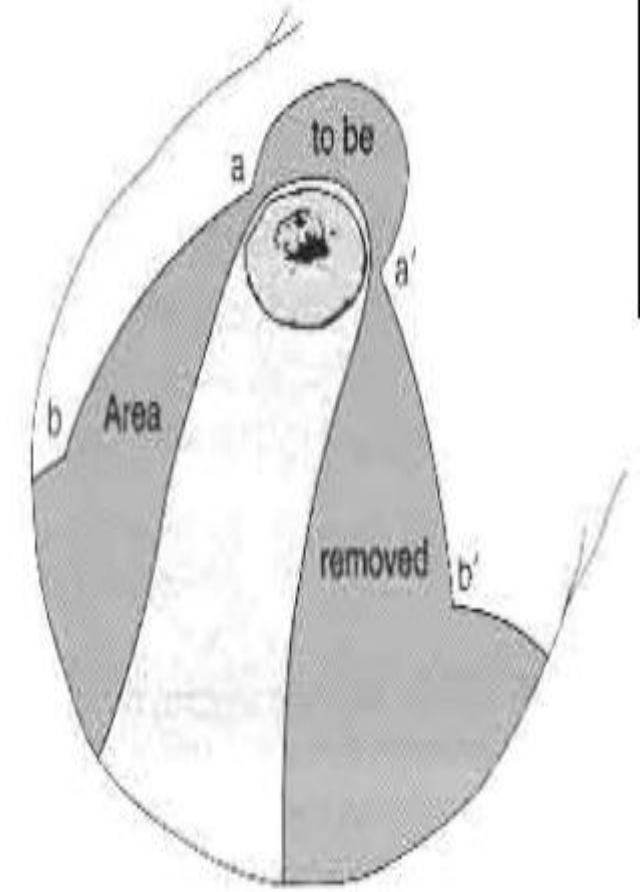


INFERIOR PEDICLE TECHNIQUE

INDICATION

- **A patient is considered a candidate for breast reduction with this method if the size and weight of her breasts cause her significant neck and shoulder pain**

- **Design of inferior pedicle is centered on the midline of breast (MCL), with a width of 6 cm in small reduction or 10 cm for large reductions.**
- **If pt is apprehensive of decreased sensation, then a part of lateral aspect may be extended to ensure that dissection includes 4-6 th intercostal nerves.**
- **Size of NAC reduced to 3-4 cm dia.**
- **Incisions marked with scalpel.**
- **De-epithelialisation accomplished with scalpel.**
- **Preservation of dermis preserves the subdermal plexus.**





35YRS MARRIED FEMALE, FAMILY COMPLETED, SEVERE NECK PAIN



LATERAL VIEW



20YRS UNMARRIED WOMAN, MACROMASTIA



REDUCTION MAMMOPLASTY



REDUCTION MAMMOPLASTY



REDUCTION MAMMOPLASTY



ASYMMETRY



ASYMMETRY



Case - 1



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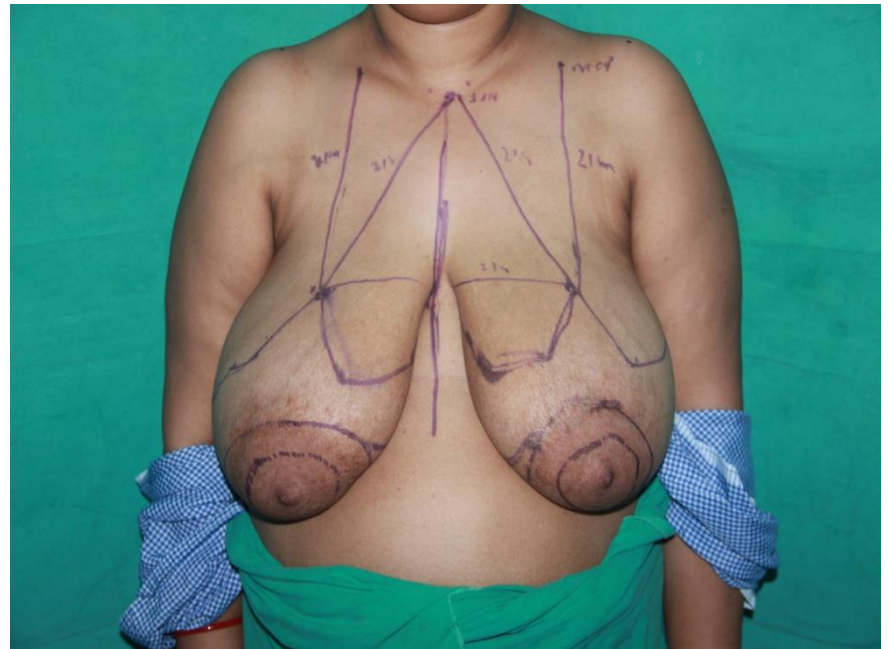
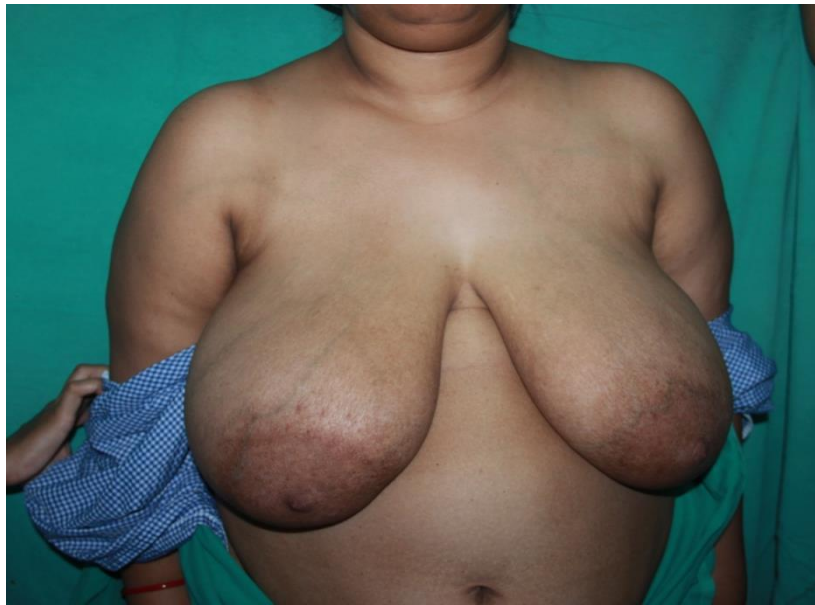
Case - 1

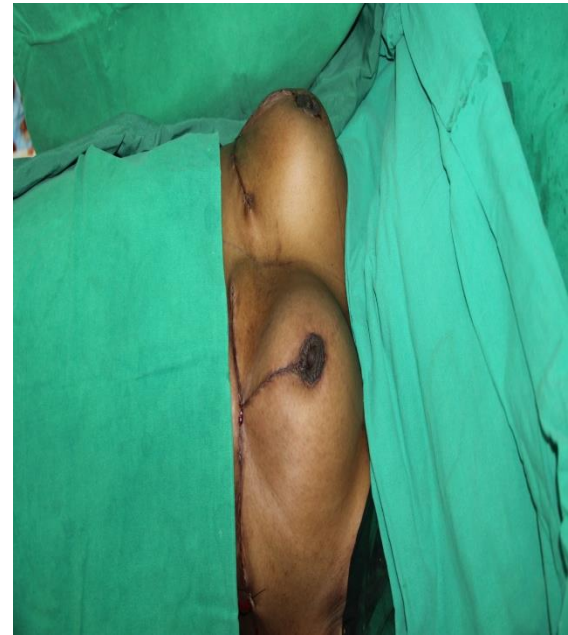
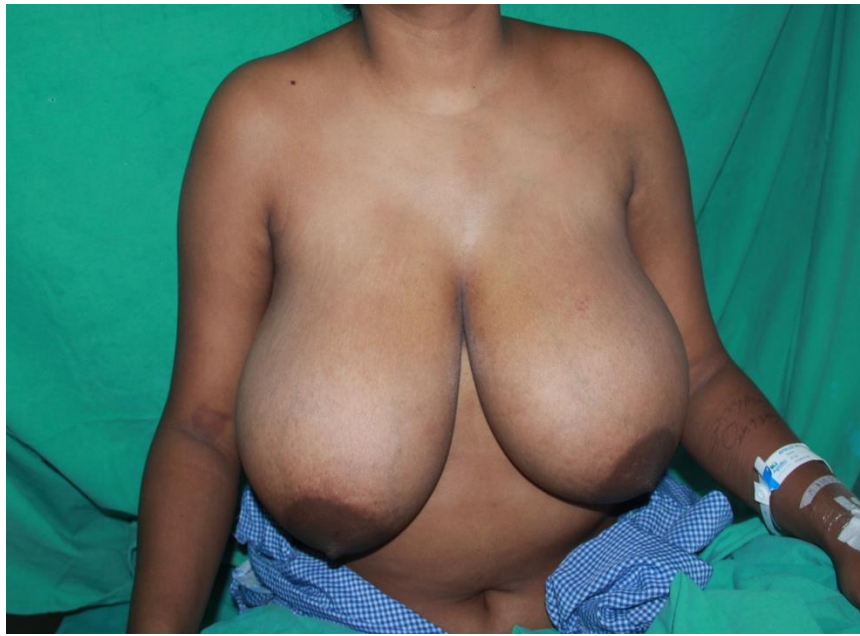


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ADVENTAGE OF LIPOSUCTION WITH CONVENTIONAL SURGERY

- **Approximation of both medial and lateral flap over de epithelised pedicle flap is extremely comfortable where as without liposuction there is some tension.**
- **Shape of the breasts nicely maintained.**

DISADVANTAGES

- **MARGINAL NECROSIS**
- **BRUISE – RESOLVE AFTER 5 TO 7 DAYS**

ADVENTAGE OF ONLY CONVENTIONAL METHOD

- **Simple technique**
- **No need of liposuction machine**
- **Flap margins are rarely necrosed.**

DISADVANTAGES

- **Shape not maintained well- asymmetry noticed in few cases .**



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Should we routinely analyze reduction mammoplasty specimens?☆

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KEYWORDS

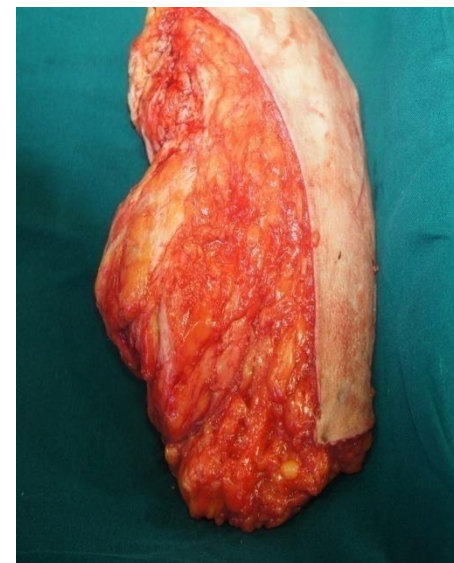
Reduction
mammoplasty;
Cancer;
Benign breast
disease;
High-risk lesion;
Breast Imaging

Summary *Background:* Reduction mammoplasty is one of the most common plastic surgery procedures. Preoperative imaging and histopathology protocols vary among countries and institutions.

We aimed to analyze the incidence of occult breast cancer and high-risk lesions in reduction mammoplasty specimens. We also analyzed whether patients with abnormal histopathology differed from the study population in terms of demographics.

Patients and methods: In total, 918 women who underwent reduction mammoplasty from January 2007 to December 2011 were retrospectively reviewed for demographics, preoperative imaging, further preoperative examinations, pathology reports, and postoperative follow-up. *Results:* Abnormal histopathological findings were revealed in 88 (10%) patients with a mean age of 49.5 ± 10.2 years. The incidence of breast cancer was 1.2%, and the incidence of high-risk lesions (atypical ductal and lobular hyperplasia and lobular carcinoma in situ) was 5.5%. Age and specimen weights were significantly higher in patients with abnormal histopathology. Eighty-one percent of patients with abnormal histopathology had normal preoperative imaging revealing two high-risk and two cancer findings. Two patients developed breast cancer in the same breast in which the high-risk lesion was originally detected.

Conclusion: Women with abnormal histopathology cannot be sufficiently detected preoperatively. Therefore, histopathological analysis of reduction mammoplasty specimens seems



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It has been reported that routine histopathological analysis of reduction mammoplasty specimens is not cost-effective because the incidence of occult cancers in the specimens is low.^{1,37} However, as Kececi et al.¹⁸ suggested, these figures are usually calculated for individual cancers detected and do not consider risk-increasing findings. High-risk lesions should be considered in determining whether histopathological analysis of specimens is cost-effective or not. The importance of high-risk lesions for the patients is clear over time.¹⁸

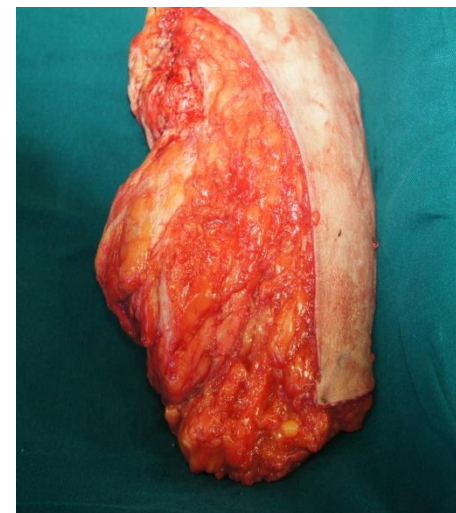
There are some limitations to our study. Because of its retrospective nature, we could not standardize preoperative routines and histopathological sampling. Nevertheless, this study cohort represents common plastic surgery practice. In this study, the follow-up time is short (mean 6.2 ± 1.4 years), which probably affected the number of subsequent cancers. With longer follow-up, more cancers may be detected in these high-risk patients.

To conclude, preoperative diagnostics and demographics do not sufficiently detect malignant or cancer risk-increasing findings. Therefore, histopathological analysis of reduction mammoplasty specimens seems mandatory. Reduction mammoplasty combined with subsequent histopathological examination offers a sufficient chance of detecting cancer and risk-increasing lesions that merits the cost of histopathology.

Role of the funding source

None.

7. Jansen DA, Murphy M, Kind GM, Sands K. Breast cancer in reduction mammoplasty: case reports and a survey of plastic surgeons. *Plast Reconstr Surg* 1998;101:361–4.
8. Ishag MT, Bashinsky DY, Beliaeva IV, Niemann TH, Marsh Jr WL. Pathologic findings in reduction mammoplasty specimens. *Am J Clin Pathol* 2003;120:377–80.
9. Colwell AS, Kukreja J, Breuing KH, Lester S, Orgill DP. Occult breast carcinoma in reduction mammoplasty specimens: 14-year experience. *Plast Reconstr Surg* 2004;113:1984–8.
10. Kakagia D, Fragia K, Grekou A, Tsoutsos D. Reduction mammoplasty specimens and occult breast carcinomas. *Eur J Surg Oncol* 2005;31:19–21.
11. Slezak S, Bluebond-Langner R. Occult carcinoma in 866 reduction mammoplasties: preserving the choice of lumpectomy. *Plast Reconstr Surg* 2011;127:525–30.
12. Freedman BC, Smith SM, Estabrook A, Balderacchi J, Tartert PI. Incidence of occult carcinoma and high-risk lesions in mammoplasty specimens. *Int J Breast Cancer* 2012;2012:145630.
13. Desouki MM, Li Z, Hameed O, Fadare O, Zhao C. Incidental atypical proliferative lesions in reduction mammoplasty specimens: analysis of 2498 cases from 2 tertiary women's health centers. *Hum Pathol* 2013;44:1877–81.
14. Tadler M, Vlastos G, Pelte MF, et al. Breast lesions in reduction mammoplasty specimens: a histopathological pattern in 534 patients. *Br J Cancer* 2014;110:788–91.
15. Merkkola-von Schantz P, Jahkola T, Carpelan A, Krogerus L, Hukkinen K, Kauhanen S. Adverse histopathology and imaging findings in reduction mammoplasty day-surgery patients. *Scand J Surg* 2014;103:209–14.
16. Goodwin JT, Decroff C, Dauway E, Sybenga A, Mahabir RC. The management of incidental findings of reduction mammoplasty specimens. *Can J Plast Surg* 2013;21:226–8.
17. Samdanci ET, Firat C, Cakir E, Ak M, Sayin S, Nurkubil Z. The incidence of non-proliferative and precancerous lesions of reduction mammoplasty: evaluation of 773 cases. *Eur Rev Med*





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Cost savings in outpatient versus inpatient reduction mammoplasty

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KEYWORDS

Reduction
mammoplasty;

Summary *Background and aims:* Reduction mammoplasties are increasingly performed as outpatient procedures. Cost savings are assumed, but published data on the subject are scarce. The aim of this study was to retrospectively determine the possible cost savings achieved by performing reduction mammoplasties as outpatient procedures.

treatment ($p = 0.004$, Wilk's lambda 0.892), immediate reoperation ($p < 0.001$, Wilk's lambda 0.545), and late reoperation ($p < 0.001$, Wilk's lambda 0.847).

Discussion

In this study, outpatient reduction mammoplasty procedures were associated with significantly lower costs than inpatient procedures. Total costs were 925 € (18%) lower for the outpatient procedures. On average, ward expenditure of 294 € (43%) per patient was saved. The savings were not as high as previously reported,⁴⁻⁷ which might have been due to several reasons. For example, our multivariate analysis showed that in addition to treatment group, costs correlated closely with ER visits and additional wound treatments as well as reoperations. Previous studies have not included these additional or

later costs. As complications are more and their treatments are expensive,⁸ this may account for much of our difference with previous studies. Moreover, all of the previous studies are from the United States and Canada, and therefore there will have been differences in the pricing of surgical procedures and ward expenditure from those of Europe and Finland.

For the inpatient treatment group, higher ward expenditures were a statistically significant cause for the higher costs of treatment, but for total costs, the sequelae of major complications played a significant role when the entire treatment process is included in the analysis. In particular, reoperations (theater time) and prolonged hospital stays were expensive. The number of complications was higher in the inpatient group, which increased the cost difference between the treatment groups. In our previous study, where we analyzed the complication profile of outpatient reduction mammoplasty patients,⁹ only longer operative time correlated with an increasing number and severity of complications.

Table 2 Complications and revisits.

Variable	Outpatients	Inpatients	p
ER visits n (%)	15 (17)	14 (32)	0.046
Dressing clinic n (%)	17 (19)	16 (36)	0.027
Complications n (%)			0.026
Minor	38 (42)	24 (55)	
Major	13 (14)	10 (23)	
No	39 (43)	10 (23)	
Immediate reoperations n (%)			ns
Hematoma evacuation	5 (6)	1 (2)	
Revision for infection	1 (1)	1 (2)	
Late reoperations n (%)			ns
Dog ear excision	20 (22)	12 (27)	

Table 3 Average costs.

Variable	Outpatients	Inpatients	p
Total cost (€)	4114	5039	0.036
Clinic costs (€)	583	685	ns
Cost of the procedure (€)	2307	2658	ns
Ward expenditure (€)	390	684	0.001
Laboratory tests (€)	65	79	ns
Pathology (€)	397	414	ns
Clinical procedures (€)	270	400	ns
Radiology (€)	101	118	ns

the difference was not statistically significant. Drains were seldom used for outpatients. Removal of drains is difficult to arrange once the patient is discharged. For inpatients, drains were used more often, and it is possible that they have acted as routes for contamination and infection, thus increasing the amount of complications. The risk of thromboembolic events was considered higher for the inpatients resting at their hospital beds and thus prophylactic anticoagulant therapy was used more often for inpatients. This might have resulted in more bleeding and thus more hematomas and wound infections. Reduction mammoplasty is a procedure with a rather high (40–50%) complication rate^{10–12} and the complication rate in our study population was similar to that previously reported. Fortunately, most of the complications were minor, but the costs of their treatment are an inevitable part of the expenditure of surgical treatment of breast hypertrophy. In spite of these additional costs, the cost utility of reduction mammoplasty is high, as expressed by the quality-adjusted life years gained by the assets invested in the treatment process.¹³ The cost utility can be further increased with the savings achieved by outpatient treatment.

The major limitations of this study are its retrospective nature and the small sample size. On the contrary, as a retrospective study, we believe that it reflects the true costs in our outpatient and inpatient units. In spite of the limitations, we also believe that our study suggests that outpatient mammoplasty is cheaper than inpatient mammoplasty. On the basis of this study, we feel that outpatient reduction mammoplasty should be adopted more widely in Europe.

Conflict of interest statement

References

1. Fedorowicz Z, Lawrence D, Gutierrez P, van Zuuren EJ. Day care versus in-patient surgery for age-related cataract. *Cochrane Database Syst Rev* 2011;6(7):CD004242.
2. Gerber RA, Perry R, Thompson R, Bainbridge C. Dupuytren's contracture: a retrospective database analysis to assess clinical management and costs in England. *BMC Musculoskelet Disord* 2011;12(12):73.
3. McManus SA, Topp DA, Hopkins C. Advantages of outpatient breast surgery. *Am Surg* 1994;60(12):967–70.
4. Buenaventura S, Severinac R, Mullis W, et al. Outpatient reduction mammoplasty: a review of 338 consecutive cases. *Ann Plast Surg* 1996;36(2):162–6.
5. Davies B, Lewis R, Pennigton G. Reduction mammoplasty: a comparison of outpatient and inpatient procedures. *Aesthetic Plast Surg* 1996;20:77–80.
6. Short K, Ringler S, Bengtson B, et al. Reduction mammoplasty: a safe and effective outpatient procedure. *Aesthetic Plast Surg* 1996;20:513–8.
7. Nelson RA, Colohan SM, Sigurdson LJ, Lalonde DH. Practice profiles in breast reduction: a survey among Canadian plastic surgeons. *Can J Plast Surg* 2008;16(3):157–61.
8. Nwaogu IY, Bommarito K, Olsen MA, Margenthaler JA. Economic impact of bleeding complications after mastectomy. *J Surg Res* 2015 Nov;199(1):77–83.
9. Carpelan A, Kauhanen S, Mattila K, et al. Reduction mammoplasty as an outpatient procedure: a retrospective analysis of outcome and success rate. *Scand J Surg* 2015 Jun;104(2):96–102.
10. Cunningham BL, Gear AJL, Kerrigan CL, et al. Analysis of breast reduction complications derived from the BRAVO study. *Plast Reconstr Surg* 2005;115:1597–604.
11. Davis GM, Ringler SL, Short K, et al. Reduction mammoplasty: long-term efficacy, morbidity, and patient satisfaction. *Plast Reconstr Surg* 1995;96(5):1106–10.
12. Dabbah A, Lehman Jr JA, Parker MG, et al. Reduction mammoplasty: an outcome analysis. *Ann Plast Surg* 1995;35(4):337–41.
13. Todd F, Bäckman B, Tiddin E, et al. Cost utility of breast

Thank you

