

COMPARATIVE STUDY BETWEEN SUPEROMEDIAL AND INFERIOR PEDICLE REDUCTION MAMMOPLASTY TECHNIQUES: COMPLICATIONS AND AESTHETIC OUTCOME

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Introduction

Breast reduction has been proven effective in relieving the physical and psychological burdens of breast hypertrophy. Breast reduction aims at attaining a natural appearance that satisfies the patient because the female breast is among the most attractive cosmetic areas in female anatomy and a symbol of femininity. Several pedicle techniques have been explained in reduction mammoplasty; the superomedial pedicle is mainly used in Europe, while the inferior and central pedicle is preferred in the United States.

Aim of the work

This study compared superomedial and inferior pedicle reduction mammoplasty techniques regarding complications and aesthetic outcomes.

Patients and Methods

Twenty (20) female patients diagnosed with breast hypertrophy admitted for undergoing breast reduction in the plastic and reconstructive surgery unit at Alexandria main university hospital, Egypt, from June 2021 to November 2022 were included in the study. Patients were allocated into the superomedial pedicle (10) and inferior pedicle (10) groups. The aesthetic outcome was assessed subjectively using a 7-point scale and objectively by anthropometric measurements and Photogrammetry using BCCT. core software after six months of follow-up. Data were analyzed with SPSS version 23, whereby a *P*-value of <0.05 was deemed statistically significant.

Results

The mean age of patients was 38.35 ± 7.98 years, mean BMI of 32.21 ± 6.65 , ranging from 24.20 to 43.60. The preoperative SN-N distance ranged from 32 to 44 cm, with a mean of 36.93 ± 3.65 cm. The weight of removed breast tissue intraoperative ranged from 464 to 2,114 g per breast, with an average of $1,303 \pm 495.5$ g. Complications incidence during the follow-up period was 65%, with more manifestation in the inferior pedicle group with high BMI ($>30\text{kg/m}^2$). Wound healing-related problems were most manifested, followed by bottoming out. NAC necrosis with a total loss occurred in 3 patients, and no hematoma or nipple sensation changes were observed. Subjective photographic analysis by reviewers scored an average of satisfactory (4) results in both groups ($p\text{-value}>0.05$)(Table 1). Physical measurements showed a significant distinction between the two groups in pre- and three months postoperative mean SN-N distance ($p\text{-value } 0.042$) (Table 2). Morphological changes occurred during the first three months postoperative without significant changes in the following months except for the vertical scar length. BCCT. core assessment showed that the superomedial pedicle group had better aesthetic results than the inferior pedicle group.

Table 1: Comparison between the superomedial and inferior pedicle groups according to subjective assessment of photographs based on the Likert scale..

Score parameters	Group I (Inferior) (n=10)	Group II (Super medial) (n=10)	t-test	p-value
Overall shape	4.62 ± 1.66	4.37 ± 0.84	0.379	0.711
Nipple position	4.53 ± 1.66	4.12 ± 0.94	0.616	0.548
Areola size	4.74 ± 1.19	4.16 ± 0.85	1.126	0.279
Projection	4.82 ± 1.11	4.66 ± 0.87	0.330	0.746
Scars	5.12 ± 0.97	5.16 ± 0.39	0.117	0.908
Adequacy of reduction	5.41 ± 0.79	5.37 ± 0.66	0.116	0.910

Key:
1=very poor,
2=poor,
3=mediocre,
4=satisfactory,
5=good,
6=very good,
7=excellent

Table 2: Comparison between the superomedial and inferior pedicle groups three months postoperative according to their anthropometric measurements

Postoperative anthropometric measurements	Group I (Super medial) (n=10)	Group II (Inferior) (n=10)	t-test	p-value
SN-N distance	23.65 ± 1.76	22.50 ± 1.14	2.185*	0.042*
NP	18.20 ± 2.71	17.30 ± 2.35	0.794	0.438
Slope at 2 cm	15.60 ± 1.78	15.10 ± 1.74	0.635	0.533
Slope at 5 cm	14.35 ± 2.24	13.40 ± 1.93	1.018	0.322
IMF level	22.10 ± 4.04	24.25 ± 2.93	1.361	0.190
LPS	4.70 ± 2.35	5.35 ± 1.91	0.676	0.507
Scar length	7.10 ± 3.02	8.40 ± 1.20	0.681	0.504

NP: Nipple Projection
LPS: Lower Pole Show
LPD: Lower Pole Distance
t: Student t-test SD:
Standard deviation
p: p-value for comparing the two studied groups
*: Statistically significant at $p \leq 0.05$

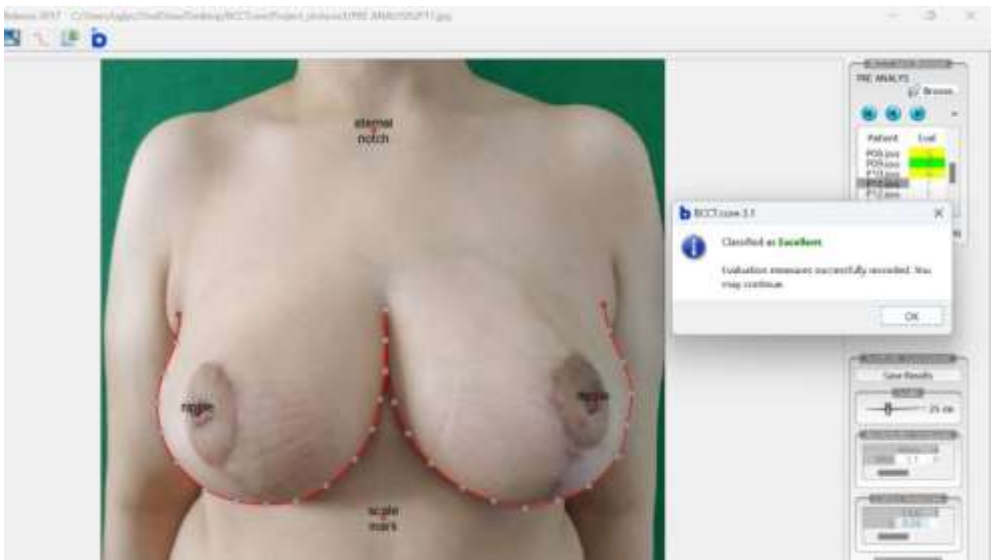


Figure: Showing an example of BCCT. core software analysis of an anterior view photograph of a woman who underwent superomedial pedicle breast reduction.

Conclusion

The superomedial and inferior pedicle techniques are reliable and safe in macromastia / gigantomastia. However, high BMI was linked with high postoperative complications. Additionally, the superomedial pedicle technique can be considered the procedure of choice for reduction mammoplasty in medium-size breasts aiming for better aesthetic results and fewer complications, while the inferior pedicle technique is for large-size breasts. This study recommends that the overall aesthetic outcome in breast reduction should comprise objective and subjective scoring for a better conclusion.