Journal of
Medical Research and Surgery

Research Article

Atik B, et al. J Med Res Surg 2025, 6:6

Dermal Bra Supported Superocentral Pedicled Reduction Mammaplasty Technique: A Modification of the Wuringer Septum Preservation

Bekir Atik[1*], Mehmet Ergin Dipcin[2], Zekeriya Kul[3]

[1]*Private Clinic, Istanbul, Turkey.*
[2]*Private Kurtkoy Ersoy Hospital, Istanbul, Turkey.*
[3]*Department of Plastic and Reconstructive Surgery, Istanbul Uskudar University, Istanbul, Turkey.*

Correspondence to: Bekir Atik, Private Clinic, Istanbul, Turkey. Email: drbekiratik@gmail.com
Received date: November 09, 2025; **Accepted date:** November 18, 2025; **Published date:** November 25, 2025
Citation: Atik B, Dipcin ME, Kul Z. Dermal Bra Supported Superocentral Pedicled Reduction Mammaplasty Technique: A Modification of the Wuringer Septum Preservation. *J Med Res Surg.* 2025;6(6):144-148. doi:10.52916/jmrs254191

ABSTRACT

Introduction: Macromastia is a condition that causes physiological and aesthetic problems, which can be corrected with surgical treatments. It can be treated by plastic surgeons using reduction mammaplasty surgery. Among these treatments, pedicle-preserving procedures are available. The most commonly used method among these is the inferior pedicle technique. However, this method is frequently associated with bottom-out deformity as a complication. In this complication, the tissue beneath the Nipple-Areola Complex (NAC) experiences ptosis due to the effects of gravity. Another pedicle technique aimed at preventing this complication is the superior pedicle. However, the most significant complication of the superior pedicle technique is vascular insufficiency and loss of innervation of the NAC.

Surgıcal Technıque: In this study, a surgical method described as the superocentral pedicle, which preserves the fibrous septum extending from the 5th intercostal area originating from the pectoral muscle fascia to the NAC, was used to minimize vascular insufficiency and loss of innervation. Additionally, the dermal structure exposed after de-epithelialization was utilized as a flap and anchored around the newly formed breast tissue to prevent breast tissue ptosis.

Method: Thirty-six patients who underwent surgery using this technique were followed for six months. Patients with diabetes and heavy smokers were excluded from the study. Patients included had a minimum Jugular Notch–Nipple distance of 30 cm and a pedicle length of at least 8 cm. Patients were evaluated for NAC necrosis, wound infection, wound dehiscence, and loss of nipple sensation.

Results: A total of 36 patients underwent this technique. The mean age was 38.9 years. The average weight of excised tissue was 292,4 grams. The shortest Sternum-Nipple distance was 30 cm, and the longest was 39 cm. The average pedicle length was 10,82 cm. At the end of the six-month follow-up, no NAC necrosis, wound infection, wound dehiscence, or nipple sensation loss was observed in any of the patients. Partial NAC necrosis was observed in only one patient.

Conclusıon: This study demonstrated that reduction mammaplasty can be safely performed in patients with long pedicles using this superocentral pedicle technique, which preserves the fibrous septum. No total NAC necrosis or sensory loss was observed.

Keywords:

Dermal Bra, Reduction Mammaplasty, Nipple-Areola Complex (NAC), Wuringer Septum, Breast Surgery.

Introduction

Macromastia refers to abnormal breast enlargement, which may involve hypertrophy of the glandular and/or adipose tissue. Patients with excessively large breasts often experience complaints such as back, neck, and shoulder pain, bra strap grooves, as well as additional problems like sleep disturbances, difficulty in finding and wearing clothes, skin lesions, and reduced self-confidence [1-4]. For these patients, reduction mammaplasty has remained the sole option for years.

Reduction mammaplasty is widely performed worldwide. According to the 2019 statistics of the International Society of Aesthetic Plastic Surgery (ISAPS), it is the 7th most commonly performed surgery by plastic surgeons, with an increasing number each year [5].

This surgical procedure aims to remove excess tissues while preserving the vascular and nerve support of the breast, thereby alleviating the patient's complaints both functionally and aesthetically. Among the techniques used in these surgeries, pedicle-preserving procedures are fundamental. Various surgical techniques are applied globally to achieve this goal.

A common feature of these procedures is the repositioning of the NAC, along with parenchymal and skin resection. Six main pedicle approaches exist: superior, inferior, lateral, horizontal bipedicle, and vertical bipedicle approaches. Among these, the inferior pedicle is the most widely used by plastic surgeons [6]. While the inferior pedicle technique is considered a safe method due to its robust vascular support, it often results in the undesirable postoperative complication of bottom-out deformity [7]. In this deformity, ptosis of the glandular and fatty tissues beneath the NAC occurs due to gravity, while the NAC remains stationary.

To prevent this, superior pedicle mammaplasty has been proposed as a solution. However, a significant disadvantage of this technique is the risk of NAC necrosis due to loss of vascular and nerve support. This method, particularly in cases of long pedicles, compromises nipple viability [8].

When examining the vascular and neural support of the breast, a fibrous septum originating from the fascia of the pectoralis muscle in the 5th intercostal space is observed. This fibrous septum extends horizontally within the breast gland and adipose tissue to the NAC and contains the vascular and neural supply [9].

In this study, we describe a new method for reducing the risk of NAC necrosis in superior pedicle mammaplasty. This technique, referred to as the superocentral pedicle, involves preserving the aforementioned fibrous septum to maintain the vascular and innervational support of the breast. Additionally, the dermal structures are used to stabilize the breast tissue, akin to a bra, enhancing long-term outcomes.

Methods

The described technique was applied between February 2021 and December 2024 to patients presenting to our clinic for breast reduction and lift procedures. All patients were informed preoperatively and provided written consent. Inclusion criteria included a Jugular Notch–Nipple distance of at least 30 cm and planned pedicle lengths of at least 8 cm (Table 1). Patients with uncontrolled diabetes and heavy smokers were excluded from the study.

Table 1: Results of Surgical Procedure.

Features	Results
Patient follow-up duration (months)	6
Surgical time (hours)	
Mean	3.5
Range	2.5 – 5.5
Hospital stay duration (days)	
Mean	5.5
Range	3 – 10
Amount of tissue removed (g)	
Mean	292.4
Range	0 – 990
Sternal notch to nipple distance (cm)	
Mean	32.4
Range	30 – 39
Pedicle length (cm)	
Mean	10.82
Range	8 – 18
Major complications (cases)	0
Minor complications (cases)	
Partial areola necrosis	1
Fat necrosis	4
Temporary sensory loss	3

Patients were followed for six months and evaluated for NAC necrosis, wound infection, wound dehiscence, and nipple sensation loss.

Surgical Technique

Pre-operative markings were made following the superior pedicle technique. The nipple was planned to be positioned 1 cm above the Inframammary Fold (IMF) (Figure 1).

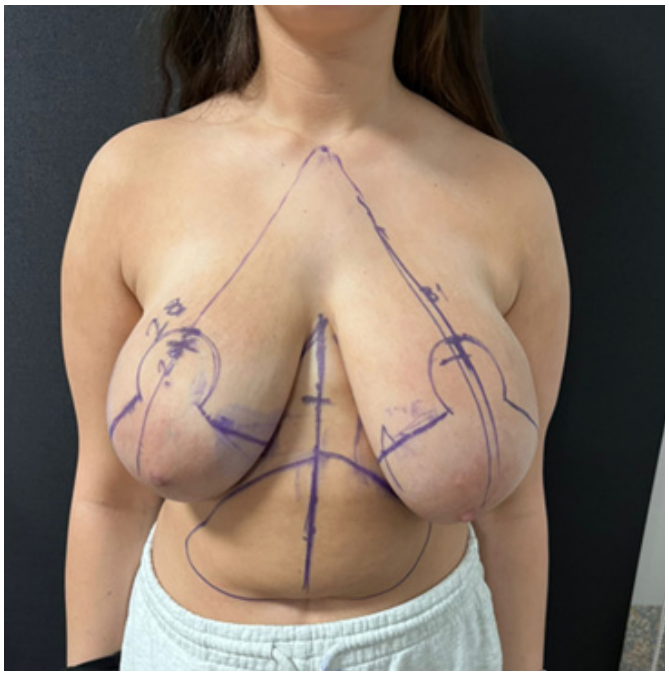

Figure 1: Pre-operative drawing.

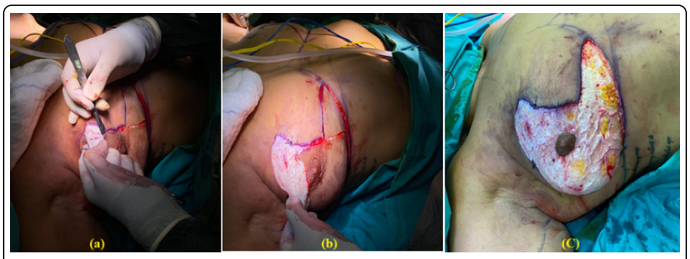

Figure 2: Stages of de-epithelialization.

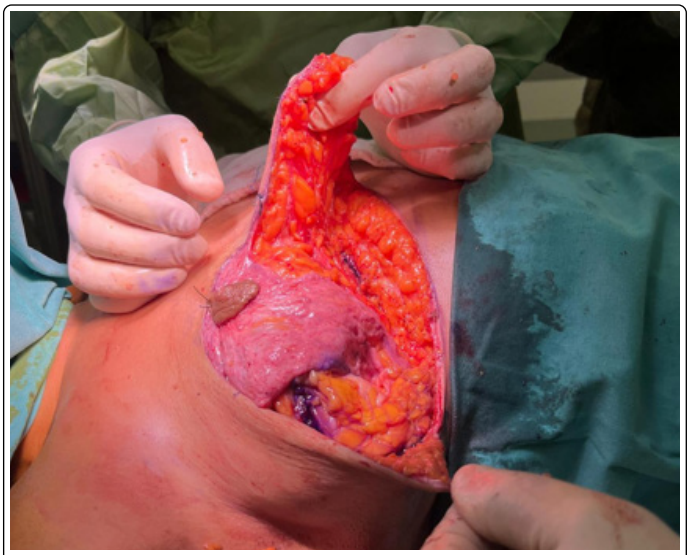

Figure 3: Formation of lateral and medial flaps.

Figure 4: Elevation of the dermal flap.

Figure 5: Bucket-handle elevation of the inferior tissue after lateral and medial tissue excision.

Figure 6: Inferior tissue excision.

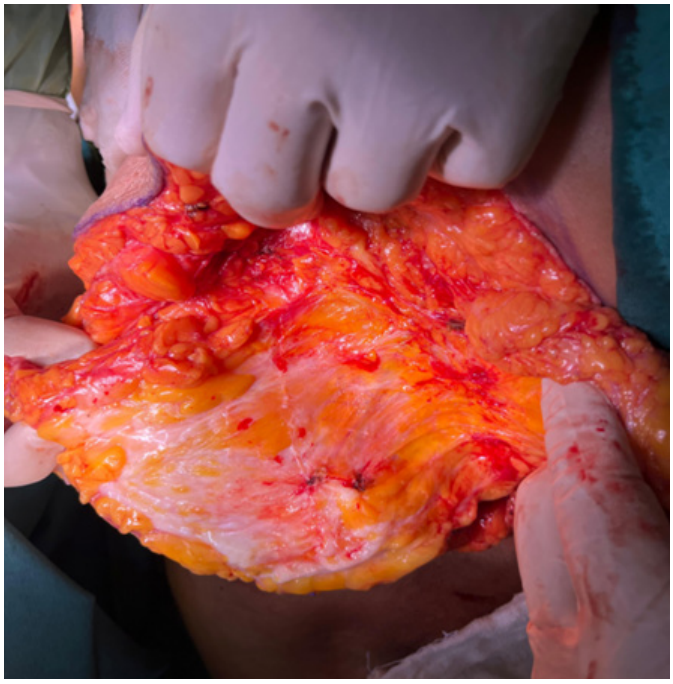

Figure 7: Exploration of the wuringer septum.

During surgery, the skin below the NAC was de-epithelialized (Figure 2a,b,c). Medial and lateral flaps were raised to expose the breast tissue (Figure 3). The de-epithelialized dermal structure was lifted as a flap (Figure 4). Medial and lateral excess tissue was excised. Next, while an assistant lifted the breast tissue in a bucket-handle fashion, the tissue beneath the NAC was excised downward, starting 1 cm below the NAC and extending to the base. Upon reaching the Wuringer septum, the scalpel was angled inferiorly, and all tissues above the septum, including the 5th and 4th intercostal arteries, were preserved during excision ,The NAC was then repositioned, and the flaps were closed anatomically. The structure called the dermal bra was fixed around the newly created breast tissue (Figure 5-9).

Skin and subcutaneous sutures were completed, concluding the operation (Figure 10).

Results

A total of 36 patients underwent this technique. The average age was 38.9 years. The weight of excised tissue ranged from 0 to 990 grams, with an average of 292,4 grams. The Sternum-Nipple distance ranged from 30 to 39 cm. One patient experienced partial NAC necrosis, which healed with dressing in five weeks. No sensory loss was observed at six months. Three patients experienced unilateral sensory loss during the first three weeks, which resolved by six months. Four patients developed fat necrosis, which was resolved with dressing.

Figure 8: Exploration of the 5th intercostal artery.

Figure 9: The structure called the dermal bra was fixed around the newly created breast tissue.

Despite long pedicles, no cases of total tissue or sensory loss were observed (Table 1).

Discussion

Since the 19th century, efforts have been made to safely remove sufficient tissue and elevate the NAC to the ideal position in breast reduction surgeries.

The main goals of reduction mammaplasty are to remove adequate tissue, shape the breast, maintain the viability of the breast tissue particularly the NAC and preserve the shape long-term. All surgical techniques aim to preserve one or more of the main pedicles supplying the breast. The breast is vascularized by the medial thoracic artery, lateral thoracic artery, and intercostal vessels, while its sensation is provided by the 2nd to 6th intercostal nerves [10,11].

NAC's vascular and sensory support predominantly originates from the 4th and 5th intercostal areas. In 1998, Wuringer

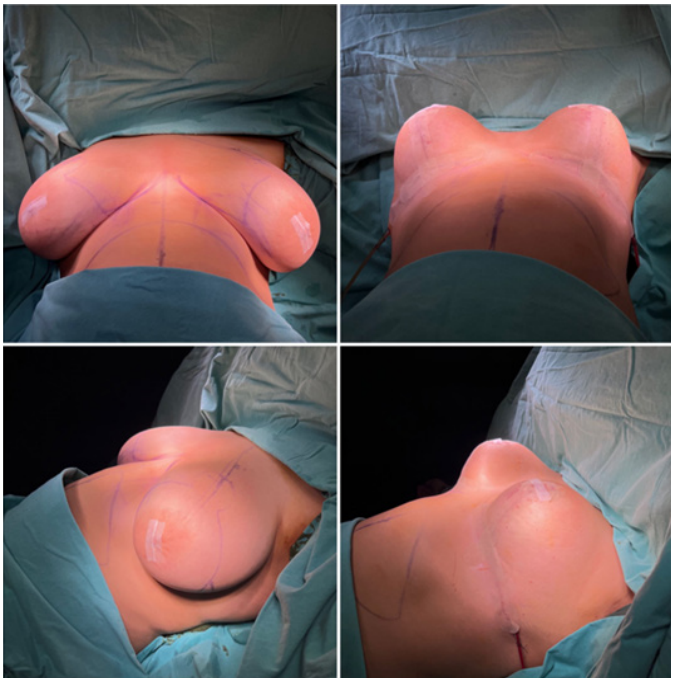

Figure 9: The structure called the dermal bra was fixed around the newly created breast tissue.

described the neurovascular network originating horizontally from the 5th rib level and extending vertically and medially within the suspensory ligaments of the breast to the NAC in an anatomical study [12].

Based on this study, techniques preserving the 4th and 5th intercostal perforators have been developed to avoid free nipple techniques in cases of severe ptosis. Superior, superomedial, and central pedicle-based reduction and lift techniques have been utilized [13,14].

However, in all these techniques, dermal structures are the only supporting elements for the tissues caudal to the NAC. These structures endure the weight of the glandular and fatty tissues for only a few months. While the breasts appear normal postoperatively, they tend to sag within months.

To minimize postoperative sagging, superior pedicle techniques proposed by Lee, Lassus, Le Jour, and Pitanguy have been adopted. These techniques have shown reduced sagging and increased patient satisfaction [15-17].

However, these techniques pose risks in highly ptotic or large breasts. The long and voluminous tissues superior to the NAC are nourished only by perforators proximal to the 4th rib, limiting their application due to the risk of NAC necrosis [18].

As mentioned earlier, most of the NAC's vascular and sensory support originates from the 4th intercostal perforators.

In our technique, which is suitable for large and highly ptotic breasts, the primary pedicle includes the vascular arc originating from the internal mammary artery at the superocentral region while incorporating intercostal perforators within the Wuringer septum. Post de-epithelialization, preserving the Wuringer septum and the 4th and 5th intercostals by lifting only the skin flap from the sternum medially to the mid-axillary line laterally ensures a well-vascularized breast tissue. Delaying excision until this stage facilitates the identification of the Wuringer septum. Following NAC's repositioning, dermal structures stabilize the

final breast tissue shape and secure it.

Conclusion

In conclusion, Wuringer septum-based superior pedicle mammaplasty achieves successful outcomes despite long pedicles.

Conflict of interest

None.

Funding

The work has no funding sources.

References

1. Myint O, Zhuo W, Toshihiko S, et al. Relationship between brassiere cup size and shoulder-neck pain women. *Open Orthop J.* 2012;6:140-142.

2. Chadbourne EB, Zhang S, Gordon MJ, et al. Clinical outcomes in reduction mammaplasty: A systematic review and meta-analysis of published studies. *Mayo Clin Proc.* 2001;76:503-510.

3. Kerrigan CL, Collins DE, Striplin D, et al. The health burden of breast hypertrophy. *Plast Reconstr Surg.* 2001;108:1591-1599.

4. Rogliani M, Gentile P, Labardi L, et al. Improvement of physical and psychological symptoms after breast reduction. *J Plast Reconstr Aesthet Surg.* 2009;62:1647-1649.

5. International Society of Aesthetic Plastic Surgery. Plastic Surgery Statistics Report. 2019. Available from: https://www.isaps.org/wp-content/uploads/2020/12/Global-Survey-2019.pdf. Accessed 25 March 2021.

6. Greco R, Noone B, Evidence-based medicine: Reduction mammaplasty. *Plast Reconstr Surg.* 2017;139:230e-239e.

7. Kankaya Y, Oruç M, Sungur N, et al. Four flap suspension technique for prevention of bottoming out after breast reduction. *Ann Surg Treat Res.* 2016;90(1):10-15.

8. Bauermeister AJ, Gill K, Zuriarrain A, et al. Reduction mammaplasty with superomedial pedicle technique: A literature review and retrospective analysis of 938 consecutive breast reductions. *J Plast Reconstr Aesthet Surg.* 2019; 72(7):1219-1243.

9. Würinger E, Mader N, Posch E, et al. Nerve and vessel supplying ligamentous suspension of the mammary gland. *Plast Reconstr Surg.* 1998;101(6):1486-1493.

10. Palmer JW, Taylor GI. The vascular territories of the anterior chest wall. *Br J Plast Surg.* 1986;39:287-299.

11. Cieśla S, Wichtowski M, Poźniak-Balicka R, et al. The surgical anatomy of the mammary gland: Vascularisation, innervation, lymphatic drainage, the structure of the axillary fossa (part 2). *NOWOTWORY J Oncol.* 2021;71:62-69.

12. Würinger E, Mader N, Posch E, et al. Nerve and vessel supplying ligamentous suspension of the mammary gland. *Plast Reconstr Surg.* 1998;101:1486-1493.

13. Hamdi M, Van Landuyt K, Tonnard P, et al. Septum-based mammaplasty: A surgical technique based on Würinger's septum for breast reduction. *Plast Reconstr Surg.* 2009;123(2):443-454.

14. Kelahmetoglu O, Firinciogullari R, Yagmur C, et al. Combination of Würinger's horizontal septum and inferior pedicle techniques to increase NAC viability during breast reduction surgery. *Aesthetic Plast Surg.* 2017;41(6):1311-1317.

15. Lassus C. A technique for breast reduction. *Int Surg.* 1970;53:69-72.

16. Lejour M. Vertical mammaplasty and liposuction of the breast. *Plast Reconstr Surg.* 1994;94:100-114.

17. Matarrasso A, Pitanguy I. The keel resection/Pitanguy reduction mammaplasty. *Oper Tech Plast Reconstr Surg.* 1996;3:156-169.

18. Zavrides H. The Classic Pitanguy Technique and Its Modifications in Mammaplasty: Ten Years of Experiences. *Ann Plast Surg.* 2017;79(5):433-437.