

DOUBLE MINI- LIPOABDOMINOPLASTY - UPPER AND LOWER: CASE REPORT

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Abstract: Significant weight gain followed by significant weight loss, whether through diet, surgery or after pregnancy, causes the skin and abdominal wall to undergo structural changes related to diastasis of the rectus abdominis muscles. 1.

Depending on the sagging of the skin and abdominal wall 4,5,6, partial abdominoplasty, traditional abdominoplasty or lipoabdominoplasty can be used 6,7,8.

When sagging involves only the upper region of the abdomen, reverse lipoabdominoplasty can be used, resecting excess skin located in the epigastrium, with a single scar line in the inframammary folds. 9,10. The indications for each procedure are individualized according to patient complaints and physical examination¹¹.

In this case report, the double mini-lipoabdominoplasty technique is presented, with lower (suprapubic) and upper (epigastric) traction, following the fundamentals of tensioned reverse abdominoplasty by Deos¹⁷, without mobilization of the navel.

Keywords: sagging; abdominal wall; abdominoplasty; lipoabdominoplasty; mini-lipoabdominoplasty; plastic surgery;

REPORT OF CASE

A 45-year-old female patient presenting with sagging skin in the upper and lower abdomen, with a previous surgical history of mastopexy with implant and abdominal liposuction. She also had skin-fat asymmetry and subcutaneous fibrosis with intense adhesion, resulting from previous liposuction, without sufficient skin mobilization to perform complete lipoabdominoplasty. Presence of hypertrophic scar in the umbilical region and scar from previous T-mastopexy.

Routine preoperative laboratory and imaging tests were performed. Ultrasonography of the abdominal wall did not show any hernias or diastasis of the rectus

abdominis.

The double mini-lipoabdominoplasty technique (suprapubic and epigastric) was used, with lower traction and upper traction aiming to correct sagging in the upper and lower abdomen. The association with liposuction aimed to improve abdominal dermolipodystrophy, with the aim of improving the contour of the abdomen.

MARKING

The preoperative marking began with the delimitation of the midline of the abdomen, starting at the xiphoid process and going up to the vaginal furcula. To mark the lower mini-lipoabdominoplasty, a horizontal line was drawn 6 cm from the vaginal furcula and the “pinch test” was used as a reference to determine the excess skin to be removed. The 9 cm point was identified between the upper resection line and the navel, thus respecting the concepts of mini-lipoabdominoplasty, avoiding the unsightly effects of the distance between the navel and the suprapubic scar. (Figure 1)

With the patient in an upright position, a line was demarcated in the breast creases, joining them in the midline (xiphoid process), following the previous mastopexy scar. Then, using the “Pinch test”, a provisional line was drawn to determine the amount of skin to be excised, resulting in a distance of 5 cm between the line of the inframammary fold and the lower line of the marking for excision. of skin. (Figure 1)

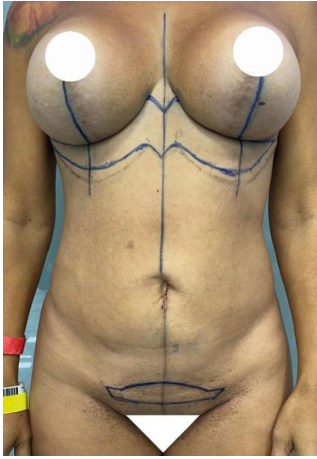


Figure 1 - Pre-surgical appointment for double mini-lipoabdominoplasty

SURGICAL TECHNIQUE

The procedure was performed under general anesthesia and appropriate antiseptic and aseptic techniques. It began with infiltration with a solution of adrenaline in 0.9% saline solution in a proportion of 1:500.00iu, in the abdomen and flanks. Next, liposuction of the upper, lower abdomen and flanks was performed.

LOWER ABDOMEN

once the liposuction was completed, it was followed by a suprapubic incision until the aponeurosis and excision of the entire demarcated area, traction of the flap inferiorly and suturing in two planes, the deep one with PDS 3-0 and subdermal with monocryl 4-0. (Figure 2)

UPPER ABDOMEN

an incision was made according to the previous marking up to the aponeurosis and detachment in a caudal direction to the region close to the umbilical scar. (Figure 3) Then, the flap is pulled in a cephalic direction (Figure 4) to assess the excess skin to be removed, and finally excised (Figure 5). Subsequently, 3 parallel lines of progressive tension were marked and sutured (midline and semilunar

lines) towards the inframammary incision, (Figure 6a), requiring superior traction of the flap by the assistant to fix the flap, following the principles of Deos, in which 3 to 5 progressive tension lines can be used. 17 (Figure 6b).

Finally, the layered synthesis was carried out with PDS 3-0 and monocryl 4-0 subdermal.

The umbilical scar was maintained, without any mobilization of it, only correction of the previous hypertrophic scar was performed. (Figure 7)

No supra or infraumbilical plication was performed.

IMMEDIATE POST-OPERATIVE CARE

Early ambulation and a flexion position were recommended to reduce tension on the tissues and avoid direct compression on the abdomen.

The patient was discharged from hospital the day after the procedure.

An abdominal belt with medium compression was used for a period of 20 days after surgery.



Figure 2: Result after resection of excess skin.

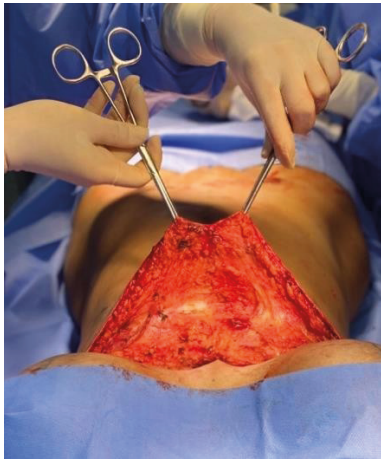


Figure 3: Detachment of the flap to be excised according to the marking.



Figure 4: Traction flap to assess the need to remove excess skin and to simulate the desired result.

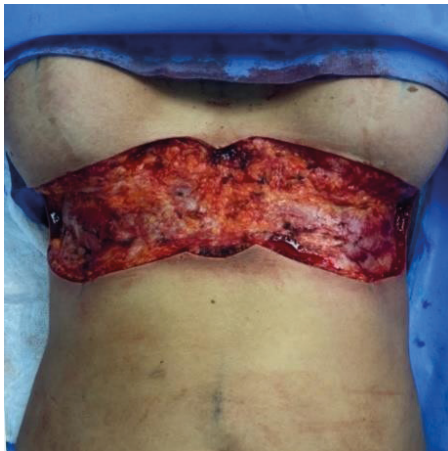


Figure 5: Removal of excess tissue.

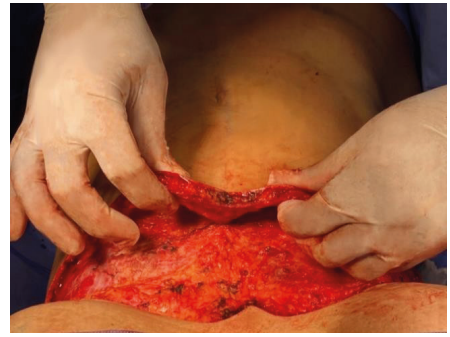


Figure 6-a: Marking of traction lines to create progressive tension points towards the inframammary incision.

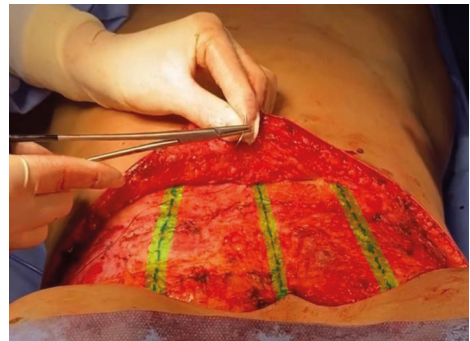


Figure 6-b. Superior traction of the flap for fixation in the aponeurosis.

RESULT

There was no flap ischemia and/or necrosis. The patient presented a recurrence of a hypertrophic scar in the umbilical region, but it was absent in the upper and lower mini-lipoabdominoplasty regions. There were no seromas, hematomas, or vascular compromise in both flaps and no evidence of supra- or infraumbilical tissue redundancy. The patient was satisfied with the result. (Figure 8)



Figure 7: Immediate post-operative period.



Figure 8: Late post-operative period of 6 months.

DISCUSSION

Significant weight gain followed by significant weight loss, whether through diet, surgery or after pregnancy, causes the skin and abdominal wall to undergo structural changes related to diastasis of the rectus abdominis muscles. Treating these changes is still a major challenge for most plastic surgeons.

Deos tensioned reverse abdominoplasty 17, represents a good indication for patients with redundant tissue in the inframammary region, even after other surgeries to improve body contour, preferably in patients who already have previous submammary scars.

The authors emphasize that this is a safe technique, with acceptable complication rates and good aesthetic results. However, an elongated scar is a common complaint in patients undergoing reverse tension abdominoplasty. In an individualized treatment proposal, the patient in this report had a surgical history of mastopexy with an inverted T scar and, therefore, this issue was not an obstacle to choosing this procedure, since the previous scar was already extensive and the new incision would respect these limits.

Mini-lipoabdominoplasty following the principles of the Saldanha lipoabdominoplasty

technique used since 2008, where there is minimal flap detachment, ensures adequate perfusion of the perforating vessels of the deep inferior epigastric system in order to avoid flap necrosis 13. Therefore, we can assume that the supply to the abdomen is sufficient with the perforators of the deep superior and inferior epigastric system. ^{12,13}combined with a cautious surgical technique, through deep liposuction and minimal detachment 12.

It is important to highlight that although the patient had upper and lower sagging, she did not have enough excess skin to undergo lipoabdominoplasty using the classic Saldanha technique⁸, thus opting for double mini-lipoabdominoplasty. The surgical objectives and possible results were discussed and agreed in advance with the patient.

Therefore, carrying out combined procedures is indicated in those patients who present apparent flaccidity in the upper and lower abdomen and in those who often report dissatisfaction after previous liposuction, without a history of previous abdominoplasty¹⁵.

It is worth noting that the unification of the scar in the midline helped the resection maneuver of most of the excess subdermal fat and skin. It is important to consider the need to fix the abdominal flap to the aponeurosis with progressive tension points to allow adequate positioning of the flap, reduce dead space, maintain the groove in its original position and avoid tension on the scar¹⁷.

This option can present excellent aesthetic results using old scars, being more easily accepted by the patient. As there is no repositioning of the navel, the chance of complications in this region decreases.

This procedure can be reliable for improving suprapubic and epigastric abdominal flaccidity with less tissue detachment and a satisfactory aesthetic result.

CONCLUSION

The association of upper and lower mini-

lipoabdominoplasty techniques has proven to be applicable in selected cases, and with good aesthetic results.

REFERENCES

1. Akram J, Matzen SH. Rectus abdominis diastasis. *J Plast Surg Hand Surg.* 2014;48(3):163-9
2. Michalska A, Rokita W, Wolder D, Pogorzelska J, Kaczmarczyk K. Diastasis recti abdominis - a review of treatment methods. *Ginekol Pol.* 2018;89(2):97- 101.
3. Elkhatib H, Buddhavarapu SR, Henna H, Kassem W. Abdominal musculoaponeurotic system: magnetic resonance imaging evaluation before and after vertical plication of rectus muscle diastasis in conjunction with lipoabdominoplasty. *Plast Reconstr Surg.* 2011;128(6):733e-740e.
4. Brauman D, Capocci J. Liposuction abdominoplasty: an advanced body contouring technique. *Plast Reconstr Surg.* 2009;124(5):168595.
5. Emanuelsson P, Gunnarsson U, Strigård K, Stark B. Early complications, pain, and quality of life after reconstructive surgery for abdominal rectus muscle diastasis: a 3-month follow-up. *J Plast Reconstr Aesthet Surg.* 2014;67(8):10828.
6. Hakme F: "Technical details in the lipoaspiration associate with liposuction". *Rev Bras Cir.*1985.75:331
7. Bolívar-Rodríguez, M. A., Gaxiola-López, C. L., Servín-Uribe, S. D., Cázarez- Aguilar, M. A., & Morgan-Ortiz, F. (2023). Diástasis de músculos rectos abdominales. Revisión bibliográfica Diastasis of rectus abdominis muscles. Literature review. *Rev Med UAS; Vol, 13(1).*
8. Saldanha, O., Ordenes, A. I., Goyeneche, C., Oyarce, N., Paredes, M., Saldanha Filho, O., & Saldanha, C. B. (2020). Lipoabdominoplasty with anatomic definition: an evolution on Saldanha's technique. *Clinics in Plastic Surgery, 47(3), 335-349.*
9. Yacoub CD, Baroudi R, Yacoub MB. Abdominoplastia reversa estendida. *Rev Bras Cir Plást.* 2012;27(2):328-32.
10. Halbesma GJ, van der Lei B. The reverse abdominoplasty: A report of seven cases and a review of English-language literature. *Ann Plast Surg* 2008;61:133-7. doi: 10.1097/ SAP.0b013e31815f6fb9.
11. Caldeira, A. M., Carrión, K., & Jaulis, J. (2018). Conceptos prácticos para el tratamiento de las deformidades abdominales complejas. *Cirugía Plástica Ibero-Latinoamericana, 44(3), 269-277.*
12. BARCELOS, F. V. T., AVELAR, L. E. T., BORDONI, L. S., & BARCELOS, R. V. T.. (2017). Análise anatômica da abdominoplastia. *Revista Brasileira De Cirurgia Plástica, 32(2), 272-281.* <https://doi.org/10.5935/2177-1235.2017RBCP0044>
13. Yurdakul M, Tola M, Ozdemir E, Bayazit M, Cumhur T (abril de 2006).
«Internal thoracic artery-inferior epigastric artery as a collateral pathway in aortoiliac occlusive disease». *J. Vasc. Surg.* 43 (4): 707-13. PMID 16616225. doi:10.1016/j.jvs.2005.12.042.
14. Lorne K. Rosenfield, MD, FACS; and Christopher R. Davis, BSc, MB ChB, MRCS: Evidence-Based Abdominoplasty Review With Body Contouring Algorithm. *Aesthetic Surgery Journal Continuing Medical Education Article* 2019, Vol 39(6) 643-661.
15. Winocour J, Gupta V, Ramirez R, Shack RB, Grotting JC, Higdon K. Abdominoplasty: Risk factors, complication rates and safety of combined procedures. *Plast Reconstr Surg* 2015;136:99-100. doi: 10.1097/PRS.0000000000001700.
16. Halbesma GJ, van der Lei B. A abdominoplastia reversa: relato de sete casos e revisão da literatura em língua inglesa. *Ann Plast Surg.* 2008;61:133-137.
17. Mauro F. Deos, M.D. Ricardo A. Arnt, M.D. Eduardo I. Gus, M.D. Tensioned Reverse Abdominoplasty. *Plastic and Reconstructive Surgery.* 2009; 124(6): 2134-2141.