

Lipoabdominoplasty: What We Have Implemented and What We Have Modified over 26 Years

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Summary: Lipoabdominoplasty is one of the most commonly performed procedures in body-contouring surgery. We present a retrospective study of our 26 years of experience to improve the results and assure the greatest possible safety in lipoabdominoplasty. We include all of our female patients who underwent lipoabdominoplasty performed from July 1996 to June 2022, dividing the patients into two groups: group I underwent circumferential liposuction avoiding abdominal flap liposuction for the first 7 years, and group II underwent circumferential liposuction including abdominal flap liposuction for the subsequent 19 years, pointing out the differences in the processes, results, and complications of both groups. Over a period of 26 years, 973 female patients underwent lipoabdominoplasty: 310 in group I and 663 in group II. Ages were very similar; however, weight, BMI, amount of liposuction material, and weight of the abdominal flap removed were higher in group I. Twenty percent of patients in group I were obese compared to 7% in group II. The average amount of liposuction in group I was 4990 mL compared to 3373 mL in group II and 1120 g of abdominal flap in group I versus 676 g in group II. Minor and major complications were 11.6% and 1.2% in group I versus 9.2% and 0.6% in group II, respectively. In our more than 26 years of performing lipoabdominoplasty, we have maintained most of our initial procedures. These processes have allowed us to perform surgery safely and effectively with a low morbidity rate. (*Plast Reconstr Surg Glob Open* 2023; 11:e4805; doi: [10.1097/GOX.0000000000004805](https://doi.org/10.1097/GOX.0000000000004805); Published online 20 February 2023.)

Lipoabdominoplasty is a surgery that involves many variables due to the breadth of the surgical procedure and the great changes and modifications that have occurred over time. Our experience of more than 26 years with this surgery has allowed us to validate and modify processes to perform the procedure safely and effectively. Although the procedure has been performed since 1984,¹⁻³ it was not until the late 1990s that circumferential

liposuction and abdominoplasty were extensively performed to improve body contour with very good results.⁵ Multiple authors have made changes and contributions to improve results and safety.⁶⁻¹⁴ In this article, we analyze the evolution that the surgical technique has had in our hands during this time, pointing out the processes that we continue and those that we have changed to improve the results and perform this procedure as safely as possible.

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MATERIALS AND METHODS

During a period of 26 years, from July 1996 to June 2022, 973 female patients underwent surgery. All patients underwent liposuction combined with abdominoplasty in different ways by the main author. The surgical procedure was modified over time according to previous personal reports published in the literature,¹⁻³ modifications that will be described in this writing. In the first 7 years (1996–2003), abdominoplasty with liposuction was performed without liposuction of the abdominal flap; this

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group is referred to as group I. Group II included all patients who had liposuction of the abdominal flap after September 2003. These two periods also demarcated the analysis and results obtained in the two large groups. All patients were reviewed preoperatively by an internist, performing cardiological evaluation with electrocardiogram and paraclinical tests consisting of blood chemistry, complete blood count, prothrombin time, partial thromboplastin time, and urinalysis. Beginning in 2020, a COVID-19 protocol was added to all patients undergoing surgery.⁴

Marking the area to be liposuctioned was always performed with the patient standing. Liposuction in the posterior region ranged from the upper back to the supra-gluteal lumbar region, including the axillary region and flanks. During the first 7 years (the patients in group I), no liposuction was performed in the central abdominal region corresponding to the abdominoplasty flap (Fig. 1).⁵ From 2003 onward (the patients in group II), liposuction was performed on the abdominal flap (Fig. 2).^{2,3} The surgical procedure was performed with epidural block with lidocaine and ropivacaine, leaving, if necessary, the catheter for postoperative analgesia during the first 24 hours. General anesthesia was used only in those patients who requested it, or patients who had an anatomical problem in the thoracolumbar spine. Surgery began with the patient in the prone position, using 1L of 0.9% saline

Takeaways

Question: Which are the essential factors that must be considered to perform a lipoabdominoplasty safely and with the best aesthetic results?

Findings: Liposuction of the abdominal flap in a lipoabdominoplasty does not increase the morbidity of this procedure as long as specific parameters are met.

Meaning: Circumferential liposuction should be performed including the area of the abdominal flap to obtain the best aesthetic results; however, a narrow supraumbilical central tunnel should be maintained to ensure the vascularity of the abdominal flap.

solution plus 1mg of adrenaline vial for subcutaneous infiltration. Infiltration was performed to achieve tumescence of the area to be operated. Infiltration ratio over the 26 years varied between approximately 1–1.5 to 1. This meant infiltrating approximately 1 to 1.5 of the previously indicated solution per liter of material to be liposuctioned. Liposuction during these 26 years was always performed with 4mm cannulas in the deep plane and subsequently with 3mm cannulas in the superficial plane, leaving the flap with an approximate thickness of 2 cm, which was calculated from the skin pinch test. Open soft silicone drains were always used in the intergluteal liposuction incision.

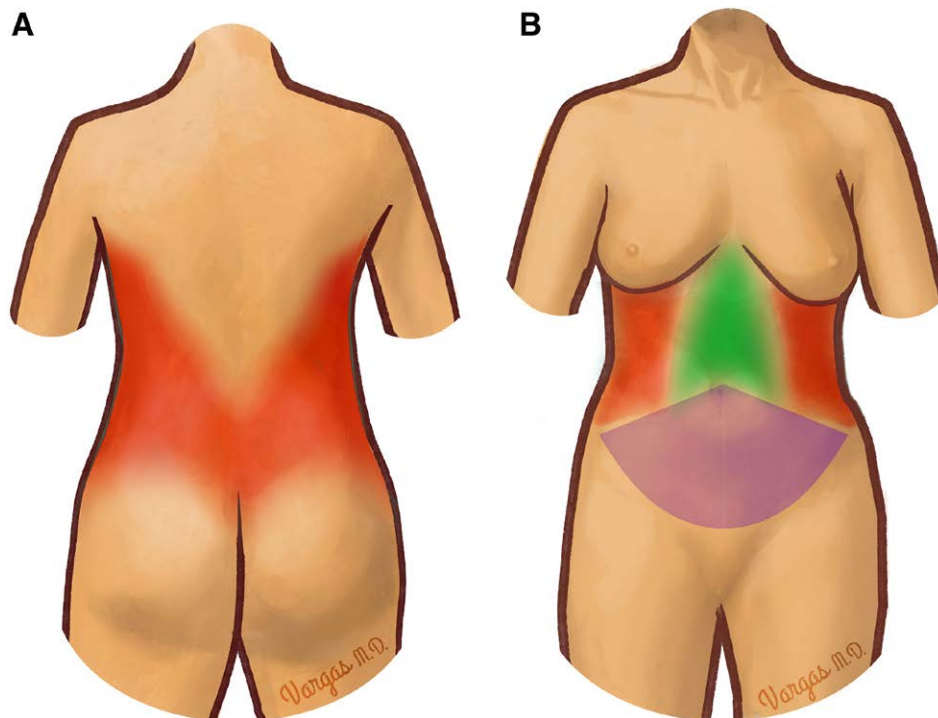


Fig. 1. In 1996, we began to perform circumferential liposuction with abdominoplasty, avoiding liposuction on the abdominal flap. The areas where liposuction was performed are indicated in red. In the posterior region, liposuction was performed on the upper and lower back, lumbar region, and flanks (A). In the abdominal area, liposuction was completed on the flanks and was performed on the lateral abdominal area, lateral to the midclavicular line. In the central abdominal portion, indicated in green, liposuction was avoided and detachment was limited to a central tunnel, just enough to plicate the rectus abdominis muscles (B). The area of the abdominal flap to be resected is indicated in purple.

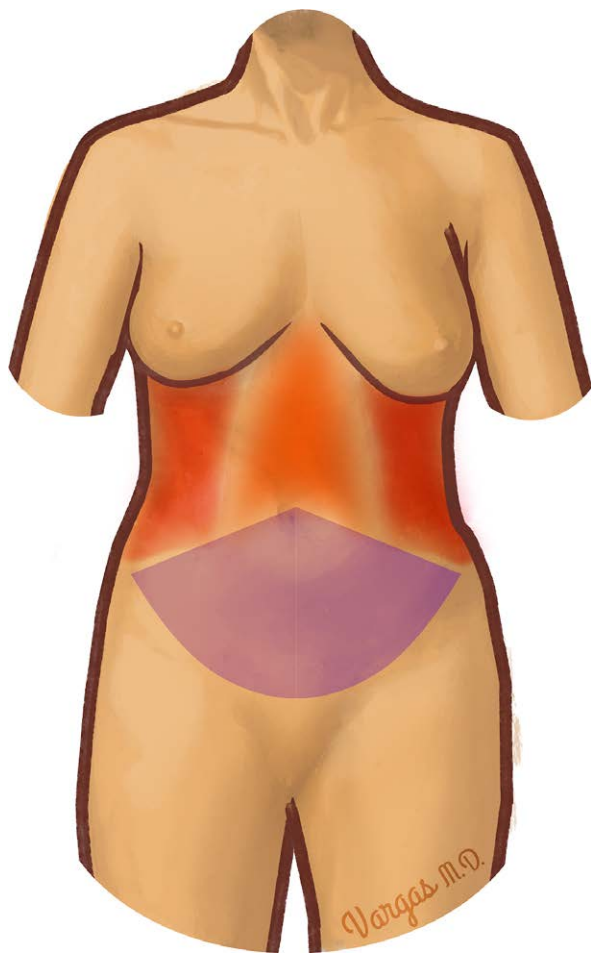


Fig. 2. In 2003, we began to perform liposuction of the central portion of the abdomen, corresponding to the abdominal flap, indicated in orange. This liposuction must leave the flap a little thicker than the rest of the liposuction area, so that together with the plication of the flap to the fascia, the rectus abdominis muscles are simulated. The detachment of the abdominal flap is kept limited in its central portion to preserve the vascularity of the flap.

In the anterior area, tumescent infiltration was performed in the same way as in the posterior region, performing liposuction in the region of the flanks up to the midline of the breast, leaving an approximate thickness of 2 cm. In the central abdominal area between the two breast midlines, liposuction was not performed during the first 7 years.⁵ Since 2003, liposuction has been performed on the abdominal flap in an intermediate plane, leaving the flap with greater thickness than the rest of the liposuctioned area.^{2,3} This thickness is approximately 2–3 cm, depending on the BMI of each patient. This was done with the objective of simulating the musculature of the rectus abdominis.

After liposuction, abdominoplasty begins with the designing according to each patient. The flap is detached to the xiphoid process of the sternum. As a basic and fundamental premise, supraumbilical detachment is exclusively limited to its central portion, as we have described over 26 years,⁵ covering only what is necessary to perform

plication of the medial edges of the rectus abdominis muscles. Unlike Saldanha et al's management where he leaves a small layer of fat beneath the Scarpa fascia,¹⁹ we remove it entirely. The plication is performed with a first plane of interrupted sutures with absorbable material (Vicryl 0) and a second plane with continuous sutures made of a nonabsorbable material (Prolene 1). With the patient semiflexed, the excess abdominal flap was cut. Starting in 1998, we began to attach the central portion of the supraumbilical flap and the entire infraumbilical portion to the muscular fascia using Vicryl 0 sutures,¹ as described by Baroudi and Ferreira⁶ and Pollock and Pollock.⁷ In the central supraumbilical portion, approximately two to three sutures are placed to adhere the flap and simulate the abdominal midline. Soft silicone drains were left with negative suction, extracting from one side of the wound. The wound was closed in planes with an absorbable material (Monocryl 0, 00, 000). At the end of the surgery, a cotton and an elastic compression bandage were used. The patient remained hospitalized for 24–36 hours, beginning ambulation at 12 hours after surgery. The surgical technique currently used is shown in the Video. (See Video [online], which shows the current surgical technique used in lipoabdominoplasty.)

From 2004, we began to use pharmacological thromboprophylaxis with 3800 IU of subcutaneous nadroparin calcium 2 hours before the start of surgery and over 3 days.² Starting in 2008, we changed to starting subcutaneous nadroparin calcium 6 hours after finishing the surgery, continuing 7 to 10 days depending on the characteristics of each patient according to Caprini risk assessment.^{8,9} At 5 days, the drains are removed, and pressotherapy with an abdominal garment is started for 6 weeks after surgery. Therapeutic ultrasound is used every third day for a month.¹⁰ Manual lymphatic drainage¹⁰ started during the third to fourth week according to the tolerance of the patient.

Statistical Analysis

For the quantitative variables, descriptive statistics were used, and they are expressed in measures of central tendency and mean. Qualitative variables are expressed in frequencies and percentages. In the inferential analysis, the Mann-Whitney U was used.

RESULTS

From July 1996 to June 2022, 973 female lipoabdominoplasty patients were operated on by the main author with ages between 25 and 67 years (mean 37 years). During the first 7 years (1996 to 2003), 310 patients in group I were operated on. In the subsequent 19 years, starting in September 2003, 663 patients from group II were operated on. The characteristics of age, weight, BMI, liposuction material, resected flap weight, and the use of blood transfusions in these two groups are shown in Table 1. With Mann Whitney U analysis, no statistical significance was obtained between both groups comparing the quantity of liposuctioned material and the weight of the abdominal flap that was resected, $P = 0.87$ and $P = 0.70$, respectively.

Table 1. General Characteristics of Patients in Both Groups

General Characteristics	Group I	Group II
	Patients without Liposuction of the Abdominal Flap (1996–2003)	Patients with Liposuction of the Abdominal Flap (2003–2022)
Number of patients	310	663
Age (y)		
Range	26–64	25–67
Average	38	37
Weight (kg)		
Range	51–113	48–89
Average	76	65
BMI		
20–24.9	44 (14%)	139 (21%)
25–29.9	204 (66%)	477 (72%)
30 or more	62 (20%)	47 (7%)
Total mL of liposuctioned material		
Range	1600–14,800	600–9400
Average	4900	3373
Abdominal flap weight (g)		
Range	380–5100	100–1911
Average	1120	676
Blood transfusions		
Patients	51 (16.4%)	22 (3.3%)
Self-donation	49	21

During the first period of the study, 51 (16.4%) patients from group I received blood transfusions; three of these patients were undergoing breast reduction surgery, and 48 patients had a BMI greater than 30. Forty-nine of the patients were managed by self-donation. In the second time period, 22 (3.3%) patients in group II received blood transfusions, and all of these patients had a BMI greater than 30, and 21 received blood self-donation (Table 1).

Minor complications during the first 7 years in group I patients consisted of seroma in the abdominal flap or lumbar region, asymmetries, hypertrophic or keloid scars, and overcorrection, and these complications occurred in 36 patients (11.6%), with abdominal seroma being the most frequent complication present in 24 patients (7.7%). In the following 19 years in patients belonging to group II, these minor complications occurred in 61 patients (9.2%), with the most frequent complication being lumbar seroma in 26 patients (3.9%), with only three cases of abdominal seroma (0.4%). The summary of these complications is presented in Table 2.

During the first period of time from 1996 to 2003, there were four major complications (1.2%) in group I, consisting of a patient with localized distal necrosis of the abdominal flap, two patients with abdominal infection, and a patient with a fat embolism syndrome. The patient with fat embolism syndrome underwent lipoinjection of the buttocks in conjunction with a lipoabdominoplasty.¹² This issue was successfully resolved. After 2003, in group II, we had four major complications (0.6%), one localized distal necrosis of the abdominal flap, and three infections. There were no cases of fat embolism syndrome. There were no cases that manifested symptoms or clinical

Table 2. Complications in Both Groups

General Characteristics	Group I	Group II
	Patients without Liposuction of the Abdominal Flap (1996–2003)	Patients with Liposuction of the Abdominal Flap (2003–2022)
Number of patients	310	663
Minor complications, n (%)	36 (11.6)	61 (9.2)
Abdominal seroma	24 (7.7)	3 (0.4)
Major complications, n (%)	4 (1.2)	4 (0.6)
Distal flap partial necrosis	1 (0.3)	1 (0.1)
Infection	2 (0.6)	3 (0.4)
Fat embolism syndrome	1 (0.3)	0 (0)

evidence of deep vein thrombosis or pulmonary thromboembolism or postsurgical hematomas in either group (Table 2).



Fig. 3. Patient 1. A 32-year-old female patient, operated on 30 years ago. Significant lipodystrophy of the abdominal and waist area.

DISCUSSION

Abdominoplasty has always been the procedure of choice to improve abdominal flaccidity. It has been systematically described for more than 50 years and has remained, over time, an excellent option to improve body contour.^{11,13,14} However, following these guidelines, the main problem that we had for more than 30 years since we began our surgical practice was the lack of body contour definition due to excess fat deposits at the flanks and thoracoabdominal region. This yielded adequate outcomes in abdominal flaccidity but was very limited in the flanks, waist, and lumbar region, where abdominoplasty did not provide any improvement (patient 1, Figs 3–6). Due to our experience over several years in performing large-volume liposuction,¹⁵ 26 years ago, in 1996, we began to combine large-volume circumferential liposuction with abdominoplasty.⁵ Before this publication,

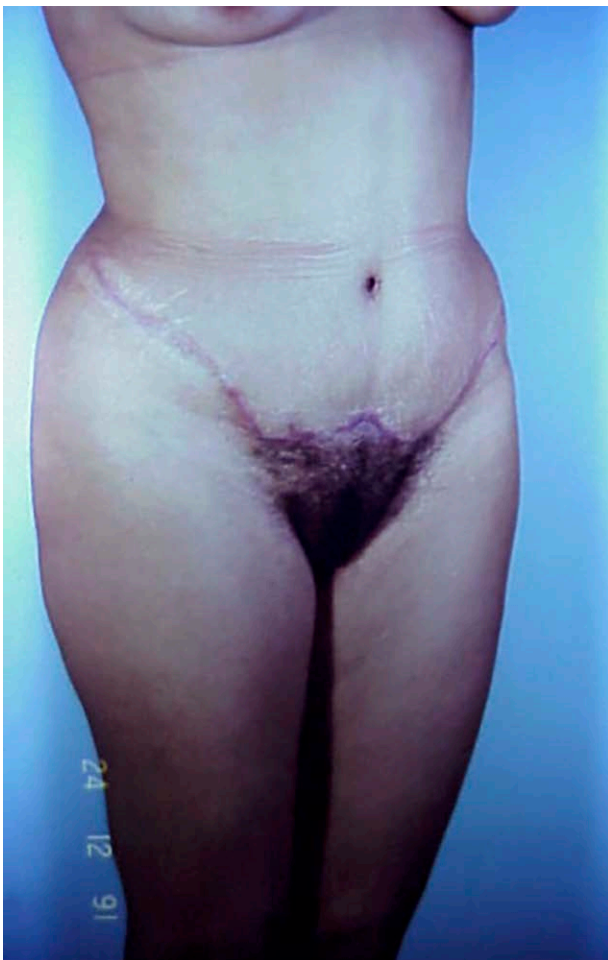


Fig. 4. Patient 1. Six months after surgery. In 1991, when this patient underwent surgery, we did not perform circumferential liposuction in conjunction with abdominoplasty. The improvement of the abdominal area is important, but there is no improvement in the waist contour. The incision was high to be hidden in the bathing suits that were used 30 years ago. Significant improvement of the abdominal profile is observed, but without any improvement of the waist contour or in the lumbar region.



Fig. 5. Patient 1. Lateral view of the patient showing significant lipodystrophy and abdominal flaccidity.

few authors reported combining both procedures,^{12,16–18} with all others referring to minor liposuctions and in very limited areas. Our publication in 1996 was the first scientific reference that combined abdominoplasty and liposuction with the characteristic of being a large-volume circumferential liposuction with an added extensive abdominoplasty.⁵ In this study, we noted, as the main safety characteristic, liposuction with tumescent infiltration to limit blood loss, and creating a narrow (only what is necessary) central tunnel during the detachment of the abdominoplasty to be able to plicate the rectus abdominis muscles, with the objective of maximally preserving the vascularity of the abdominal flap. We have continued to perform tumescent infiltration for the last 26 years, and our transfusion needs have decreased considerably due to additional situations that will be mentioned later. With this limited central detachment, we have only had two cases of limited partial necrosis in the distal area of the abdominal flap over the last 26 years without major problems in its resolution. Therefore, we continue to recommend both practices.

In our first years of lipoabdominoplasty, we did not perform liposuction of the abdominal flap due to the fear of necrosis in that area (patient 2, Figs 7–10). We continued this for 7 years; however, after the works of Saldanha et



Fig. 6. Patient 1. Postoperative with significant improvement in abdominal flaccidity but with lipodystrophy in the upper part of the abdomen and no improvement in the lumbar region.

al^{19,20} that appeared in 2001 and 2003, combining abdominal flap liposuction with a narrow supraumbilical central tunnel, we incorporated liposuction of the abdominal flap into our work. The liposuction of the abdominal flap was Saldanha's significant contribution to the lipoabdominoplasty procedure that we had already described several years before. We have been performing liposuction of the abdominal flap for more than 19 years without major problems requiring surgical correction of the abdominal flap.^{2,3} We reiterate again that limiting detachment, which we pointed out in our first publication⁵ and in all subsequent studies,¹⁻³ and leaving the superficial layer of fat in the liposuctioned flaps is the main safety factor for avoiding necrosis of the abdominal flap when combining these two procedures.

Following the recommendations of Baroudi and Ferreira⁶ and Pollock and Pollock,⁷ tension sutures were used to reduce dead spaces in extensive detachments, and in 1998, we began to use this tension sutures in our detachment in abdominoplasty,¹ with the objective of reducing seromas, which were one of our most frequent minor complications.¹ With the use of tension sutures in the abdominal flap, our abdominal seromas decreased

considerably and have almost disappeared completely,^{1,2} which is why we highly recommend their use. In addition to the advantage of avoiding seromas, these tension sutures in the supraumbilical portion, combined with a greater flap thickness in the central portion relative to the lateral portion, produce a central imbrication that simulates the abdominal midline and a visual effect of the rectus abdominis muscles, which provides the appearance of the abdominal musculature (patient 3, Figs. 11–14; patient 4, Figs 15–20). We have obtained these results in our patients for more than 16 years (since 2007),^{2,21} and this is an advantage that was also pointed out by Saldanha et al in 2020.²²

One of the most important changes that we have made in our 26 years of experience is having gradually decreased the BMI of our patients. In our first 7 years in which we did not perform liposuction of the abdominal flap, 14% were at ideal weight, while the percentage of overweight patients who underwent surgery was 66%, and 20% were obese. In the group of patients in whom liposuction of the abdominal flap was performed, the proportion of patients with ideal weights increased to 21%, with 72% of patients being overweight and only 7% being obese. We believe that this change in the characteristics of our patients was due to the boom and introduction of a large volume of bariatric surgery to manage obese and overweight patients,^{23,24} which was rarely done 25 years ago, so many overweight patients sought alternatives to improve their body contour. Currently and for several years, we have not performed this surgery in patients with a BMI of greater than 32.

Obviously, as a result of this change, the average removal of the flap in the abdominoplasty also decreased from 1120g in group I to 676g in group II. This change has also reduced the total liposuction volume in group II compared to group I, 3373mL versus 4900mL, respectively. This case is true despite the fact that in the second group, we had previously performed liposuction of the abdominal flap, but patients had a lower BMI. This change in the BMI of the patients also helps explain the decrease in the need for blood transfusions from 16.4% to 3.3% in groups I and II, respectively.

We began to use pharmacological thromboprophylaxis with 3800 IU of subcutaneous nadroparin calcium to avoid deep vein thrombosis and consequent pulmonary thromboembolism in 2004,² but we have changed our methodology. We began to use thromboprophylaxis 2 hours before the start of surgery and continued its use for 3 days. We changed this protocol in 2008 due to specific reports on its use.^{25,26} Currently, we continue to use 3800 IU of subcutaneous calcium nadroparin, but we begin administration 6 hours after finishing the surgery, and we continue to administer for 7 to 10 days depending on the characteristics of the patient and their specific score.^{9,25} In our more than 950 procedures, we have not had cases of deep vein thrombosis or postsurgical bleeding that conditioned a hematoma that needed to be drained or controlled in the operating room. We believe that performing thromboprophylaxis in these patients

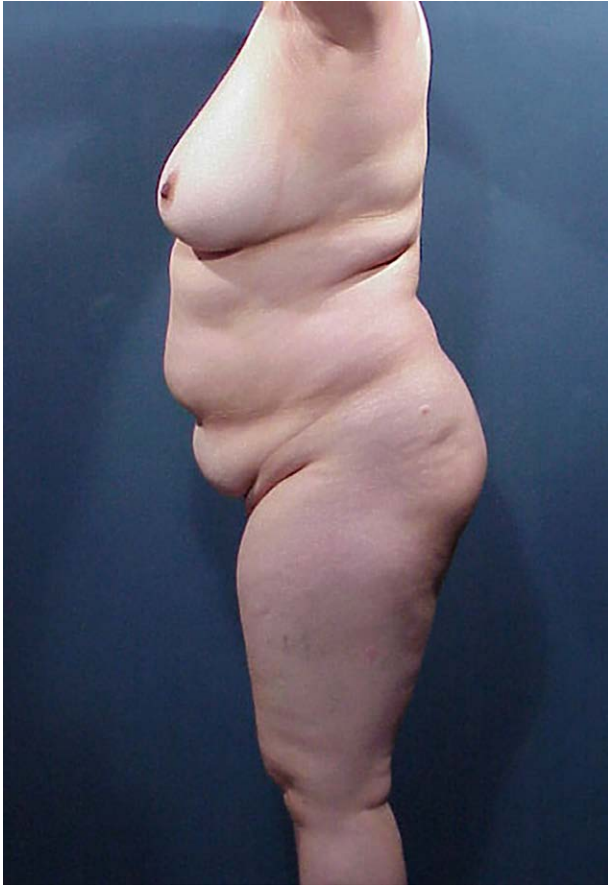


Fig. 7. Patient 2. A 29-year-old patient, significantly overweight, with marked abdominal flaccidity and significant lipodystrophy in the entire thoracoabdominal area.

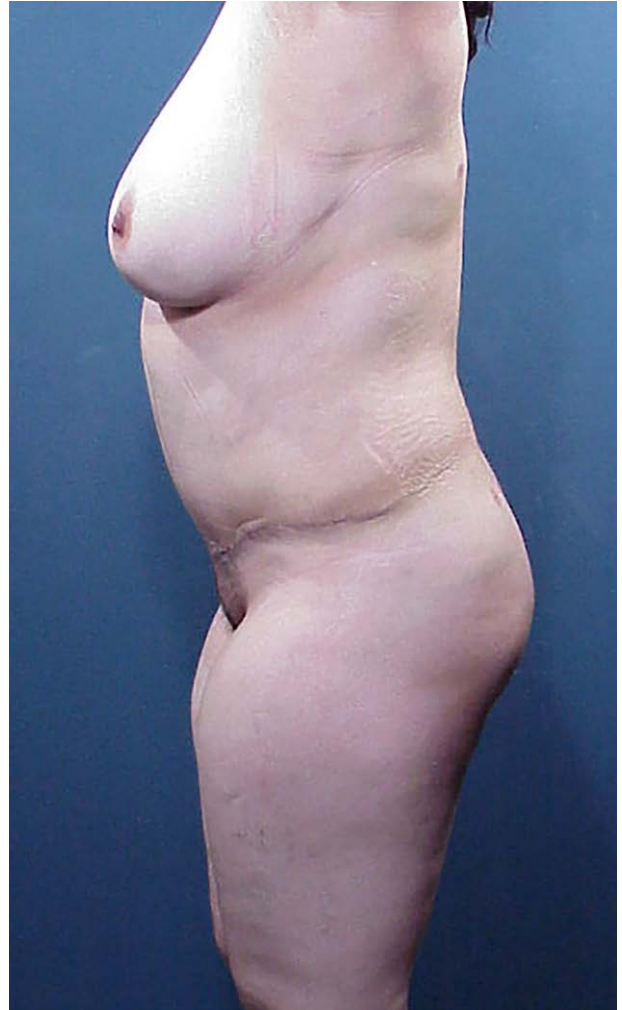


Fig. 8. Patient 2. One-year postoperative. In this patient, abdominoplasty with circumferential liposuction was performed on the entire thoracoabdominal area, except for the abdominal flap. An improvement of the entire lumbar region and the back can be observed, but due to the absence of liposuction in the abdominal flap, it still remains with marked lipodystrophy. The scar is lower, following fashion patterns.

where we combine abdominoplasty with liposuction is imperative to avoid pulmonary thromboembolism, one of the most feared complications in our specialty.²⁷⁻³⁰ In a survey of certified plastic surgeons, it was found that the main cause of death after liposuction was pulmonary thromboembolism, constituting 23% of all deaths.³¹ In a prospective series of office-based surgical procedures, 63.6% of postoperative deaths were secondary to thromboembolism.³² Despite the fact that there are controversies about the usefulness of pharmacological prophylaxis to prevent deep vein thrombosis, with authors who support it and against it,³³ our behavior has been to use it, and we have not had any problems. However, it is very important to start thromboprophylaxis at the appropriate time to minimize the risk of bleeding secondary to its use, which we accomplish by starting administration 6 hours postsurgery, verifying that there is no active bleeding without affecting the prophylaxis effect that we are seeking.

Our index and percentage of major complications did not increase after our first articles.^{1-3,5} During the first 2 years, we had one case of fat embolism syndrome, an event that has not been repeated, since it was related to intramuscular gluteal lipoinjection,³⁴ a

procedure that we have completely changed.^{35,36} We have had two cases of distal necroses of the abdominal flap. One occurred in 1997 when we did not perform liposuction of the abdominal flap, and the second occurred in 2016, when liposuction of the flap was already performed. We believe that these complications could have been related to the smoking habit in both patients. The minor complication rate has also decreased from 11.6% in group I to 9.2% in group II. We believe that maintaining effective procedures secondary to surgical experience and increasing safety protocols led to this result. These processes and conducts that have been maintained or modified throughout these 26 years have been important factors in the safety of the surgical procedure, maintaining a stable complication rate throughout this time. We minimized the use



Fig. 9. Patient 2. Marked lipodystrophy in the lumbar, lateral, waist, and back regions. No adequate contour in the gluteal region.



Fig. 10. Patient 2. Circumferential liposuction achieves a significant improvement of the thoracoabdominal contour, even improving flaccidity in this area. Improvement is observed in the gluteal contour due to the elimination of fat in the lumbar region.

of lidocaine in the solutions to achieve tumescence³⁷; we only used lidocaine in areas where the epidural block did not cover, 500 mg at most. We maintained the administration of intravenous fluids in adequate volumes according to scientific reports,^{37,38} including both fluids administered intravenously and subcutaneously. We do not use abdominal girdles immediately^{1-3,5} to avoid irregular compression and vascular compromise in the operated areas. Not wearing girdles in the immediate postoperative period has also been reported by other authors in order to avoid increasing venous stasis,³⁹ and all our patients are evaluated by an internist and have cardiological evaluation before their surgery to detect pathologies that may cause complications due to the use of epinephrine.⁴⁰

Being a retrospective study of more than 25 years, the main limitation of this work is that the patients and variables could not be grouped according to systematic prospective planning. Because of this, the analysis was performed according to how the results could be grouped, which is not ideal for an in-depth statistical analysis.

CONCLUSIONS

In our more than 26 years of performing lipoabdominoplasty, we have kept most of our initial procedures for this surgery. These processes have allowed us to perform this surgery safely and effectively with a low morbidity rate. With this experience, we make the following recommendations.

RECOMMENDATIONS

Based on our 26 years of experience performing lipoabdominoplasty, we make the following recommendations to improve the outcome and safety of the procedure. Some of these recommendations have been implemented by us and others have been adopted from other authors.

1. Complete circumferential liposuction and extensive abdominoplasty to improve postsurgical results.
2. Limitation in supraumbilical central detachment to protect flap vascularity.
3. Supraumbilical tension sutures of the flap to the fascia to minimize seromas.

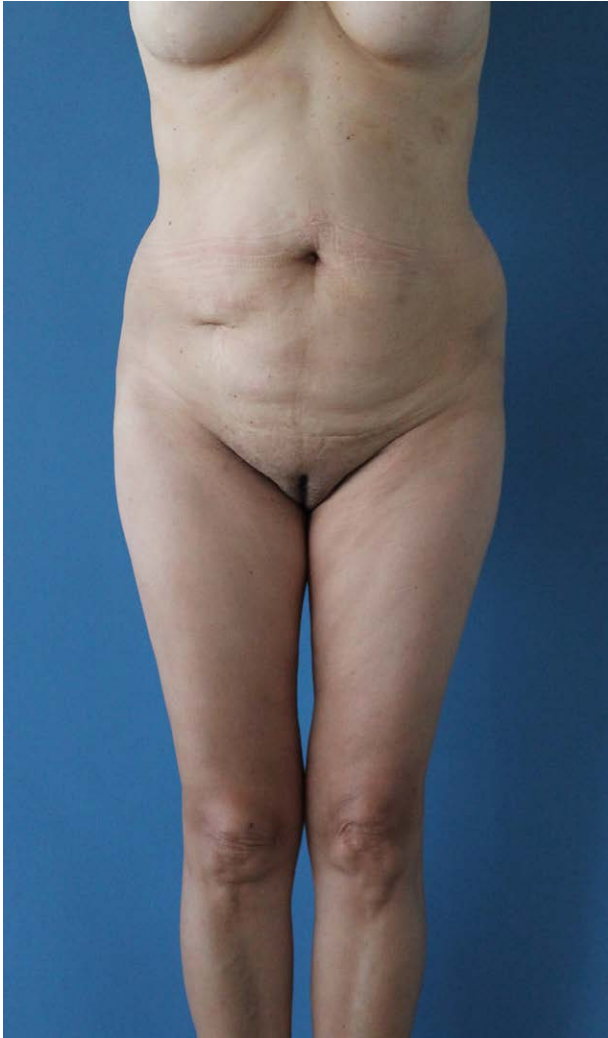


Fig. 11. Patient 3. A 38-year-old female patient with moderate abdominal flaccidity and lipodystrophy in the abdomen and waist area.

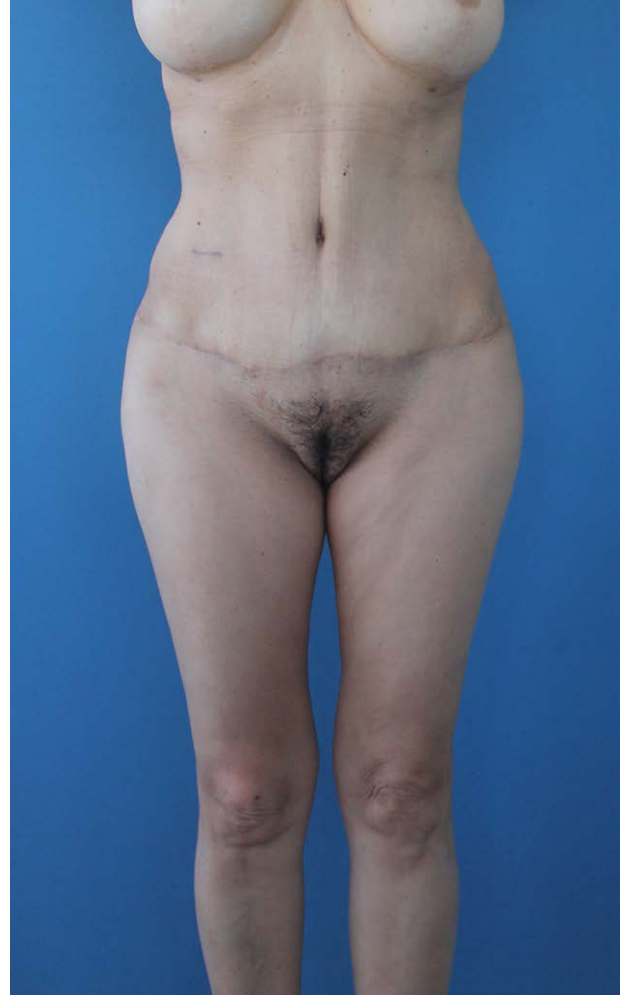


Fig. 12. Patient 3. Eight months after surgery. Significant improvement of the contour in the waist area due to the liposuction performed in the abdominal flap. Performing liposuction of the abdominal area and leaving the central flap a little thicker, and attaching the flap to the abdominal fascia with adhesion stitches, allows the rectus muscles to be simulated and the midline to be marked.

4. Leave the central flap thicker to produce the effect of abdominal musculature.
5. Limit the use of lidocaine in tumescent solutions to avoid lidocaine intoxication.
6. Use of pharmacological prophylaxis to prevent deep vein thrombosis, starting at 6 hours postoperatively to avoid intraoperative bleeding or immediate postoperative hematoma.
7. Strict control of intravenous solutions, considering the total infiltrated solutions for tumescence to avoid liquid overload.
8. Try not to use compression garments in the immediate postoperative period.

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Fig. 13. Patient 3. Significant presurgical abdominal flaccidity and severe lipodystrophy of the waist area.

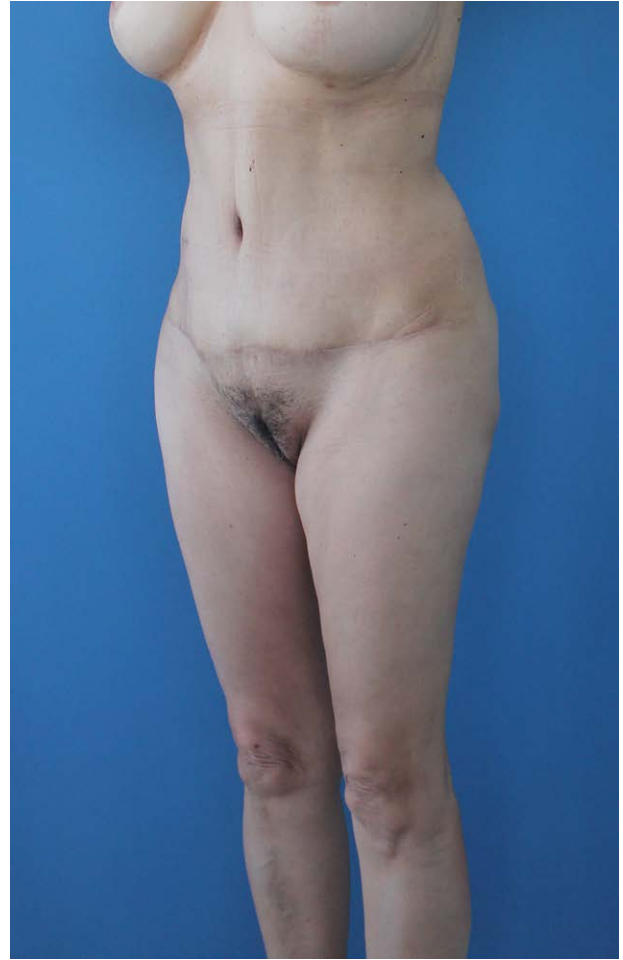


Fig. 14. Patient 3. Low scar according to the current swimsuit. Significant improvement in abdominal flaccidity and thoracoabdominal contour, especially in the waist area. Simulation of the rectus abdominis muscles and the abdominal midline can be seen.

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Fig. 15. Patient 4. A 35-year-old female patient with moderate thoracoabdominal lipodystrophy and abdominal flaccidity.

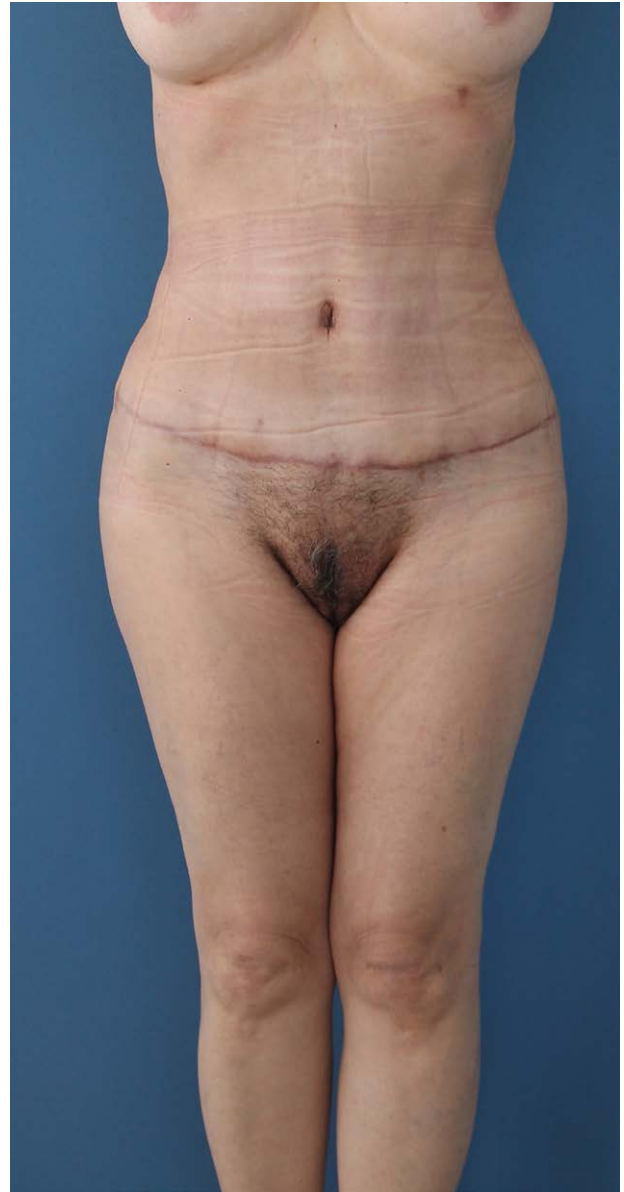


Fig. 16. Patient 4. Six months after surgery having performed abdominoplasty, thoracoabdominal circumferential liposuction, and fat infiltration in the buttocks and hips. The improvement of the abdominal area, waist, and hip contour is appreciated. As well as the simulation of the abdominal muscles.

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Fig. 17. Patient 4. Significant flaccidity and abdominal lipodystrophy can be seen in the lateral view.



Fig. 18. Patient 4. Performing abdominal flap liposuction allows us to leave a completely flat abdomen despite having significant flaccidity and lipodystrophy in the abdominal region. Also improving the gluteal contour thanks to gluteal lipoinjection and lumbar liposuction.

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Fig. 19. Patient 4. In the posterior view, there is a lack of contour in the waist area and a lack of projection in the hip area.

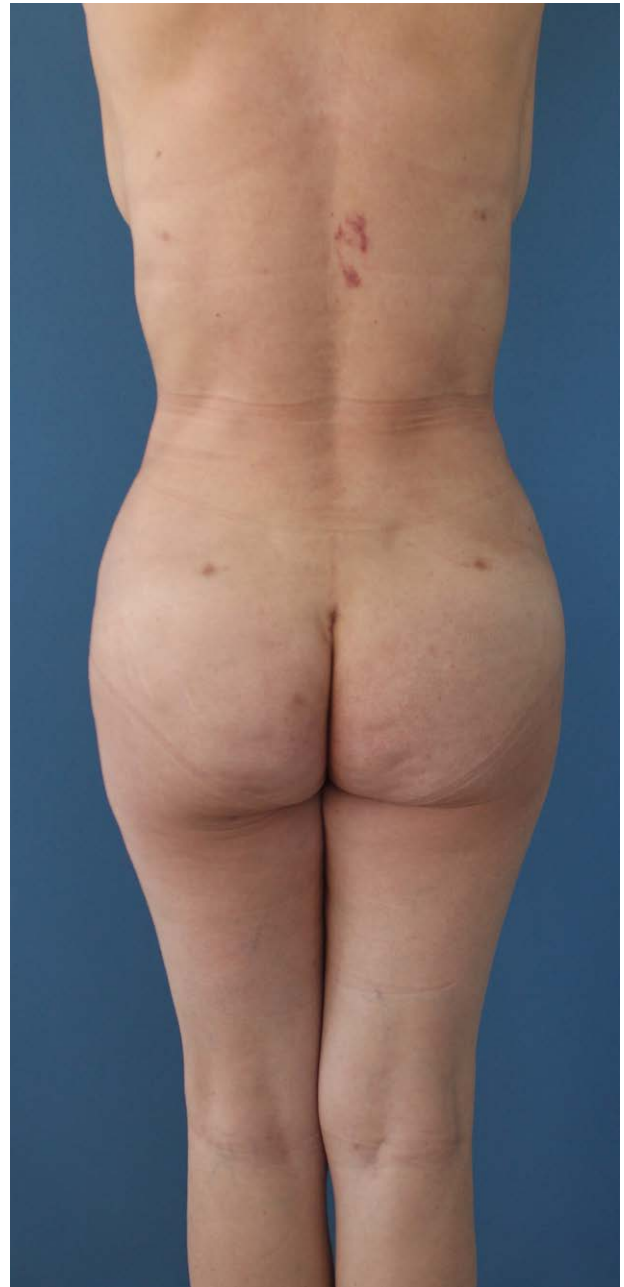


Fig. 20. Patient 4. The improvement of the waist contour is observed thanks to liposuction, and a significant improvement in the hip area due to lipoinjection.

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