Decision-Making Algorithm for Advanced Excisional Body Contouring: Dynamic Definition Solutions for Skin Laxity

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Background: Excisional body contour surgery is the cornerstone treatment for skin laxity. Decision-making can be challenging when selecting the procedure. Dynamic definition liposculpture allows the surgeon to carve the underlying anatomy and provide more natural results, in which umbilical shape and position play a crucial role. The authors describe their experience using a decision-making algorithm as a tool to ease surgical planning for advanced excisional body contouring.

Methods: Following the algorithm designed by the senior author regarding excisional body contouring procedures, the authors searched their database for patients who were classified according to skin laxity and navel location to undergo one of the following procedures: mixed technologies plus umbilical mobilization, mixed technologies plus sliding mini-abdominoplasty, mini-tummy tuck with muscular plication, full abdominoplasty, reverse bridge abdominoplasty, or reverse full abdominoplasty.

Results: A total of 563 women were consecutively operated on from February of 2014 to January of 2020. The six-procedure model algorithm helped the authors achieve very good results with low complication rates in patients with some grade of abdominal skin laxity. Most complications were reported as minor (9.6 percent). Major complications (3.9 percent) included three localized infections, four abnormal skin retractions, two cases of skin flap necrosis, and 13 cases of postoperative anemia.

Conclusions: This algorithm helped the authors choose the best excisional technique based on patients' anatomical features by following skin geometry to enhance aesthetic outcomes. Further studies are needed to support the algorithm validation and aesthetic outcomes. (*Plast. Reconstr. Surg.* 150: 1248, 2022.)

CLINICAL QUESTION/LEVEL OF EVIDENCE: Therapeutic, IV.

Excisional body contouring is a popular procedure owing to excellent reported outcomes of restoring body contour harmony by treating excess skin, fat, and muscular anatomy at one time. Numerous improvements and modifications to the original technique have been described since the first report by Demars and Marx,[1] including large case series of mini and full tummy tuck procedures,[2,3] but some results do not look natural.[2,4,5] Dynamic definition liposculpture gives natural lights and shadows to the abdomen and torso by enhancing the underlying muscular anatomy; thus, the addition of high-definition liposculpture or its upgrade dynamic definition

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liposculpture to excisional techniques may be the next step to obtain better results in excisional body contouring. Likewise, the addition of new minimally invasive skin retraction technologies could aid in specific cases in which the surgical choice is not clear.

Patient satisfaction is the main goal for aesthetic surgery, which might be attenuated by complications such as seroma, hematoma, infections, or skin necrosis. In terms of aesthetics, poor results may result from diverse situations like unpredictable skin retraction, inadequate position of the navel, and visible scars or unassertive location.[5] Patients are similar but not the same; their anatomical features are unique, so the surgeon has to approach them with a multiple-point assessment when planning any type of abdominoplasty, which should evaluate stretch marks, skin laxity, navel position, scars, and the presence of abdominal hernias,[5,6] in an effort to improve aesthetic outcomes. A poor evaluation could be the beginning of a series of events that ends in low-quality results.[7]

We present our experience with the application of a new algorithm that aims to ease the selection of the appropriate technique for patients undergoing excisional body contouring surgery (navel mobilization, mini-abdominoplasty, full abdominoplasty, reverse bridge abdominoplasty, or reverse full abdominoplasty).

PATIENTS AND METHODS

We searched our records from February of 2014 to January of 2020, looking for patients who underwent any excisional body contour surgery in addition to either dynamic or high-definition liposculpture and were subject to the algorithm application.

Algorithm

The algorithm is based on the interaction of three components: the degree of skin laxity, the navel's position and its predictive location after excision, and the need for muscular plication. The choice relies on the patient's preference in addition to the surgeon's counsel.

Patient Classification

Two main parameters are evaluated in each patient: navel preoperative location, as well as the prediction of its position after the skin advancement, and the rectus abdominis diastasis.

- Navel preoperative location: the umbilical ideal zone is defined as an area over the midline, delimited between the midpoint and the lower limit of the two upper thirds from the xipho–pubic distance.[8] For the algorithm, the preoperative location of the navel is classified according to the umbilical ideal zone as follows: high, when above or in the superior limit; low, when below or in the inferior limit; and mid, when within the umbilical ideal zone (Fig. 1).
- Degree of diastasis and the desire for correction: mild diastasis (<2 cm) might not be suitable for correction. For patients who desire a future pregnancy, we use an absorbable suture, polyglactin 910 (Vicryl; Johnson & Johnson Medical Devices, Inc., Irvine, Calif.); for patients who do not, we use a nonabsorbable suture, such as polymer nylon 6.6 (Nurolon; Johnson & Johnson Medical Devices).

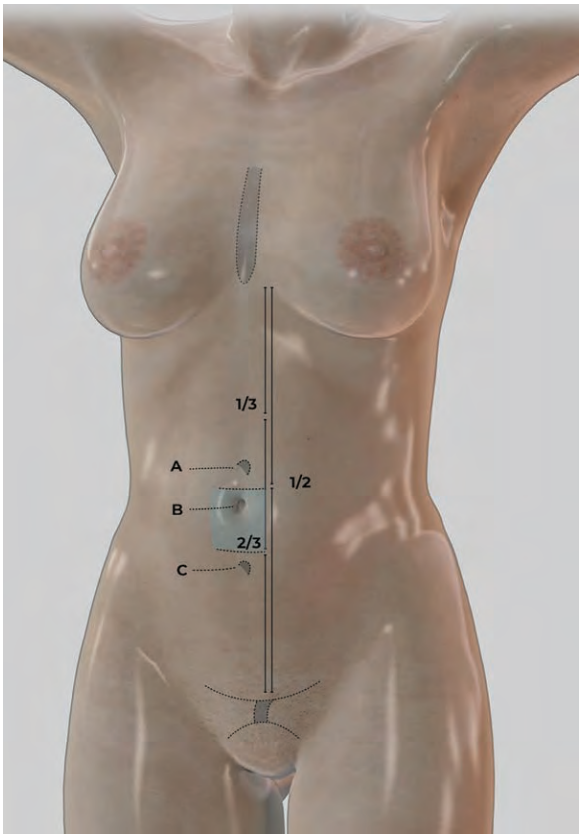

Fig. 1. Female umbilical ideal zone: area over the midline delimited by the midpoint and the junction of the two upper thirds with the lower third of the distance between the xiphoid process and the pubis. The umbilical ideal zone is usually 2 to 3 cm long, which will be a standard measurement for development of the algorithm. Point *A* is located above the umbilical ideal zone (high navel), *B* is within the umbilical ideal zone (mid navel), and *C* is below the umbilical ideal zone (low navel).

Procedure

Muscular plication is performed when needed. Liposuction is done after dynamic definition liposculpture procedures.[2,3,9] Internal minimally invasive devices (e.g., bipolar radiofrequency or helium plasma) are used to improve skin retraction. Bipolar radiofrequency-assisted BodyTite (InMode, Irvine, Calif.) is powered by directional radiofrequency, resulting in adipose tissue coagulation and liquefaction, which produce a controlled skin retraction.[10] A Renuvion device (Apyx Medical, Clearwater, Fla.) delivers helium plasma directly into the subcutaneous tissue through a cannula. Subdermal collagen fibers are heated quickly to 84 degrees, causing collagen structure denaturalization, which yields a reduction in the length of the fiber and consequently skin retraction.[11,12] The use of either the bipolar radiofrequency or plasma radiofrequency device is usually a decision agreed upon with the patient in the preoperative assessment.

- Procedure I: Umbilical mobilization plus mixed technologies. The umbilicus is detached and dynamic definition liposculpture is performed as necessary with the aid of bipolar radiofrequency or plasma radiofrequency. The navel is reinserted in a new position. No muscular plication is performed.
- Procedure IIA: Sliding mini-abdominoplasty plus mixed technologies. Dynamic definition liposculpture is performed as necessary with the aid of bipolar radiofrequency or plasma radiofrequency. Mini-abdominoplasty is then performed by pulling skin down with minimal flap dissection (approximately 5 cm above the pubic incision). In some cases, an additional cut is made in the upper fold of the umbilicus to release its base and let it float. The skin resection is performed by an ellipse-shaped pubic excision. At the end of the procedure, the navel is sutured back (when released) to the abdominal wall according to the flap deployment. No muscular plication is performed. [**See Video (online),** which demonstrates sliding mini-abdominoplasty versus dynamic definition mini-abdominoplasty (differences and similarities)].
- Procedure IIB: Dynamic definition mini-abdominoplasty. Dynamic definition liposculpture is performed as necessary. Then, a flap tunneling dissection is performed through a pubic incision up to the xiphoid process, releasing the navel from its base (approximately 10 to 12 cm). After that, a xyphopubic muscular plication is performed with the aid of a retractor (interlocking retractor; Marina Medical, Davie, Fla.). Full plication avoids epigastric bulges that could result after traditional mini-abdominoplasty techniques, where plication is done only in the infraumbilical region.[13] The umbilicus is reinserted and skin is closed.[2]
- Procedure III: Dynamic definition full abdominoplasty. The main indication for full abdominoplasty is global skin redundancy.[14,15] Dynamic definition liposculpture is performed with superficial-restricted liposuction over the central flap. Abdominoplasty incision is performed; then, a limited undermining of the tunneled flap and muscular plication are performed over the midline. Neoumbilicoplasty is conditioned by the flap perfusion assessment at the end of the closure: immediate if normal or delayed owing to issues such as severe tension, large volume liposuction, or poor skin quality. The neoumbilicus technique avoids common pitfalls of previous abdominoplasty techniques.[3]
- Procedure IV: Dynamic definition bridge reverse abdominoplasty. The incision for this technique is performed over the inframammary fold, but does not cross the midline, so the intermammary area is spared, which prevents visible scars. In the authors' experience, the vector for flap advancement is diagonal rather than vertical and the procedure is limited to a 4-cm lift maximum. First, a pinch test is performed over the midline (b′) above an imaginary line that follows the lowest point of the inframammary fold; because of the geometrical limitations of the skin, intermammary folds are created when the pinch is too large. The excisional area for dermolipectomy (c′) is calculated by using the value of the previous pinch test in addition to the Pythagorean theorem ($a^2 + b^2 = c^2$), as follows: side a is measured from the midpoint of the inframammary crease to the midline, by following the crease plane. Side b is measured over the midline in vertical direction (perpendicular) from the navel to the intersection point with line a. Side c (hypothenuse) results from the junction of the lateral end of side a with the lower end point of side b (at the navel). A simple direct rule of three (proportions) is made

to calculate c', which will be the width of a half ellipse resection over the inframammary fold (Fig. 2) in order to hide the incision. The main indications for this procedure are predominant upper skin laxity, absence of cesarean scar, and good inframammary fold (e.g., breast hypertrophy or previous breast reduction scars).[16]

- Procedure V: Reverse full abdominoplasty. Dynamic definition liposculpture is performed as necessary. A unified incision over both inframammary folds is performed crossing the midline. Flap dissection is performed to the navel, unless muscle plication is needed, in which case the dissection runs along the midline all the way to the pubic bone. Muscular plication is done[16,17] and dermolipectomy is completed by pulling the flap up and placing the closure scar along the inframammary crease.[17]

Recommendations

The following instructions are intended to assist the thought process from the patient's physical examination toward the decision of which procedure to select (Fig. 3).

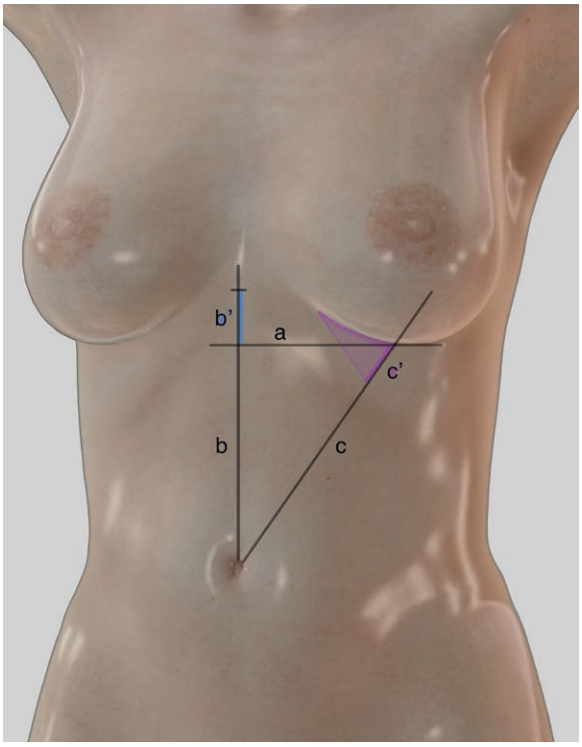

Fig. 2. Dynamic definition bridge reverse abdominoplasty (procedure IV): pinch test (*blue* line = b') and Pythagorean theorem ($a^2 + b^2 = c^2$) are performed to calculate the triangle for dermolipectomy (*violet* area) after calculating c' related to the value of b' (rule of three).

Navel Location and Muscular Plication

A pinch test is performed to estimate how long the flap should be mobilized and resected. The total distance is calculated as the double of the pinch (1, 2, 3, or 4 cm). Recommendation for the main procedure is based on the navel predictive position: either inside or outside the umbilical ideal zone. Because this is an area rather than a specific point, a 2-cm flap mobilization gap may be estimated after muscular plication (the suture provides extra tissue support without harming the flap perfusion).

High Navel

- Go high: the patient may be a candidate for a reverse lipectomy: reverse bridge (4 cm or less and no muscle plication) versus reverse full (4 cm or greater or muscle plication needed). Consider the following conditions:
  - Isolated upper skin laxity
  - Good inframammary fold or previous inverted T scar
  - Patient agrees with an inframammary fold scar

- Go low:
  - If the umbilical predicted location drops inside the umbilical ideal zone and no muscle plication is needed, then procedure I (3 cm descent or less) or IIA (greater than 3 cm) will be the best choice.
  - If the navel descends into the umbilical zone but muscle plication is mandatory, then procedure IIB is the ideal selection.
  - If the navel falls below the umbilical zone, then procedure III (full abdominoplasty) would be the best option.

Mid Navel

This group of patients represents an interesting challenge because of the borderline position of the navel.

- If no muscle plication is needed and the umbilicus is inside the umbilical zone, either procedure I (3 cm descent or less) or procedure IIA (3 cm descent or greater) should be done.
- If muscle plication is required, then procedure IIB would be ideal.

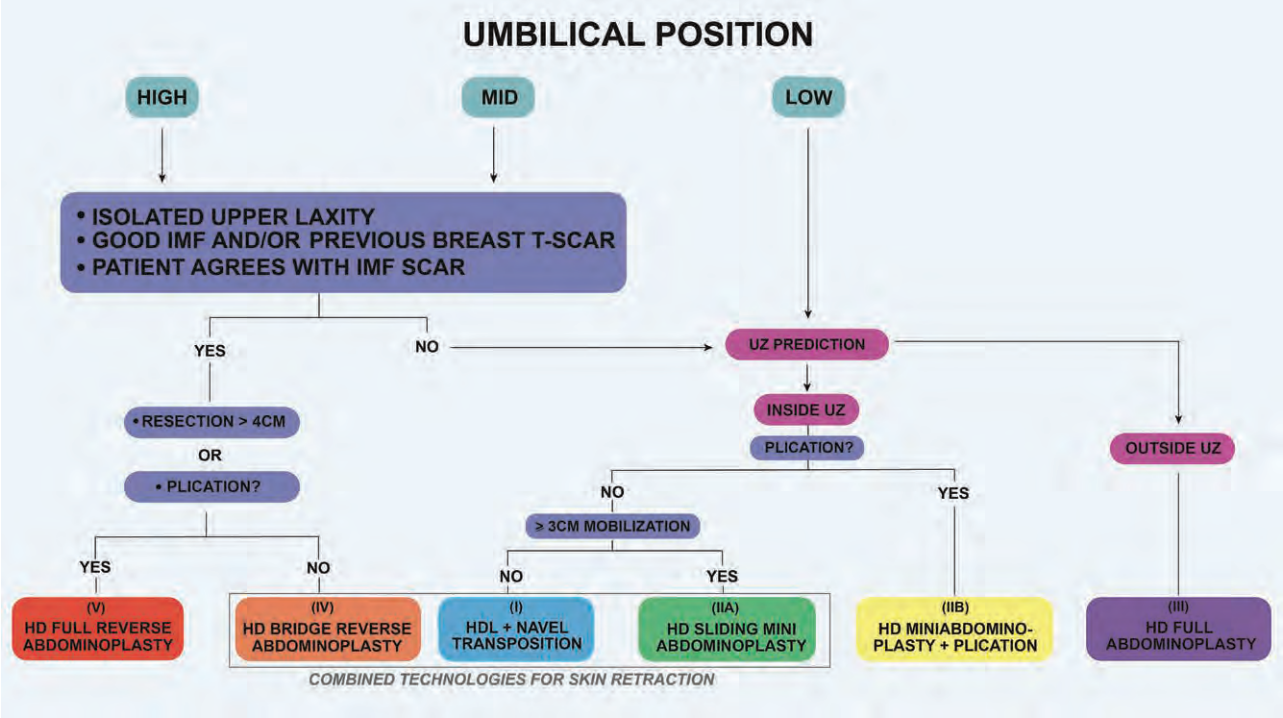

Fig. 3. Algorithm for decision-making in excisional body contour surgery. Two considerations are essential: the navel's current position and its predictive location after lipectomy and the need for muscular plication. These anatomic features will aid in the determination of the best surgical technique. *HD*, dynamic definition liposculpture; *HDL*, high-definition liposculpture; *IMF*, inframammary flap; *UZ*, umbilical zone.

- Similar to high navel, if the umbilical prediction falls below the umbilical zone, procedure III is the best choice. If conditions are met, then full or bridge reverse abdominoplasties might be performed as well.

Low Navel

These are probably the easiest patients to classify, as they are the perfect cases for procedure III (full abdominoplasty plus neoumbilicoplasty) because of the typical location of the navel outside the umbilical zone.

Hooding over the Umbilicus

Umbilicus hooding has two components: adipose tissue accumulation and skin laxity above the navel. We recommend always addressing the overall appearance of the umbilicus by its location and shape within the abdomen. When a lower-location appearance is caused by hooding (instead of the actual navel position), we use the pinch test to determine whether it could be corrected by liposuction alone or after the selected excisional procedure. The preoperative evaluation of the actual umbilical location is crucial to avoid unnecessary skin resection.

Surgical preparation protocol and intraoperative medications were the same for all patients, who also followed postoperative care management. Each patient was informed of the purpose, methods, sources of funding, any possible conflicts of interest, institutional affiliations of the authors, the anticipated benefits and potential risks of the study and discomfort it may entail, and poststudy provisions and outcomes according to the Helsinki Declaration. They were also informed of the right to refuse to participate in the study or to withdraw consent to participate at any time without reprisal. A freely given informed consent was signed for each patient participating in our study.

RESULTS

A total of 563 consecutive procedures were included for the analysis. The algorithm was developed and recommendations were followed according to each patient. Mean body mass index was 25.7 kg/m^2 and the average patient age was 34 years (range, 22 to 66 years). The amount of fat tissue extraction ranged from 450 to 10,300 cc (average, 4351 cc). Fat grafting was performed in 461 patients (82.6 percent). Patient classification is summarized in Table 1.

Table 1. Patient Demographics and Details According to Procedure*

Procedure (n = 563)	Age (yr)	BMI (kg/m^2)	Parity (n)	Local versus Foreign (n)	Previous Surgery (n)	Surgical Time (min)	Lipoaspirate(ml)	Fat Grafting (n)
I, 24 (4.3)	26–52 (32.4)	21.7–27.6 (23.9)	0–2 (1)	19 versus 5	5 (20)	30–190 (162)	1200–6700 (4120)	20 (83)
IIA, 36 (6.4)	25–48 (31.3)	21.4–27.3 (23.8)	1–3 (2)	29 versus 7	7 (20)	63–308 (160)	550–7800 (3780)	31 (86)
IIB, 139 (24.6)	22–66 (32.3)	19.4–30.2 (23.7)	1–3 (2)	110 versus 29	34 (25)	65–360 (166)	450–8400 (3740)	118 (85)
III, 327 (58.1)	25–60 (36.4)	19.3–31.3 (25.6)	0–4 (2)	258 versus 69	189 (58)	73–320 (168)	600–10,300 (4380)	268 (82)
IV, 10 (1.8)	34–47 (37.6)	23.6–31.6 (28.4)	1–3 (2)	9 versus 1	9 (90)	80–310 (162)	450–6550 (5240)	6 (60)
V, 27 (4.8)	35–58 (38.4)	24.1–32.7 (29.2)	1–4 (1)	22 versus 5	21 (78)	95–310 (174)	1350–7700 (5150)	18 (63)

BMI, body mass index.
*Values are expressed as n (%) or range (mean). Helium plasma device (Renuvion) and radiofrequency device (BodyTite) were used in 15 and nine patients, respectively, in procedure I, and in 22 and 14 patients, respectively, in procedure IIA.

Complications were present in 76 patients (13.5 percent). Most of them were classified as minor [n = 54 (9.5 percent)], including seroma, prolonged bruising, and swelling. Thermotherapy and lymphatic drainage with massage resolved all these complications. Complications classified as major [n = 22 (3.9 percent)] included postoperative anemia (2.3 percent), wound infection (0.5 percent), skin flap necrosis (0.3 percent), and abnormal skin retraction (0.7 percent). Four patients (0.7 percent) required blood transfusion because of hypovolemic symptoms. A 1-week course of oral antibiotics resolved all superficial infections. Other complications resolved with physical therapy and massages. One patient had a flap necrosis after full abdominoplasty (procedure III) and one patient had two spots of necrosis in the lower abdomen after a secondary mini-abdominoplasty with plication (procedure IIB). The latter required intermittent dressing change until resolution; the former required a selective tissue resection followed by hyperbaric oxygen therapy plus daily dressing change to allow healing by secondary intention. All complications are summarized in Tables 2 through 4.

Adverse events were described as additional procedures or those that had to be converted (Table 5). Revision or migration procedures were present in seven patients who previously underwent a mini-abdominoplasty (procedure IIB), which derived into a full abdominoplasty (III): four of them because of unaesthetic results, described as residual infraumbilical bulkiness, and the remaining three because of lower than expected umbilical position. Five out of these seven patients had clear indications for full abdominoplasty but requested a mini-tummy tuck. Other patients were comfortable with an average result and did not require further intervention. One bridge reverse abdominoplasty was converted into a full reverse because of a residual fold in the intermammary area. Ten patients with procedures I or IIA required a second round for skin retraction technologies 3 to 6 months after surgery to aid in additional skin retraction. Two patients required a third treatment. One patient required migration to procedure III because of residual skin laxity.

Table 2. Distribution of Complications According to Procedure*

Procedure	Complications (n = 76)	Total per Procedure
I (n = 24)	2 (2.6%)	2 (8.3%)
IIA (n = 36)	3 (4%)	3 (8.3%)
IIB (n = 139)	15 (19.7%)	15 (10.8%)
III (n = 327)	51 (67.1%)	51 (15.6%)
IV (n = 10)	1 (1.3%)	1 (10%)
V (n = 27)	4 (5.3)	4 (14.8)

*Values are expressed as n (%).

Table 3. Overall Frequency of Complications Associated with Algorithm Development*

Complications	Complications (n = 76)	Total Patients (n = 563)
Seroma	13 (17%)	13 (2.3%)
Prolonged bruising	17 (22%)	17 (3%)
Prolonged swelling	24 (32%)	24 (4.2%)
Anemia	13 (17%)	13 (2.3%)
Skin abnormal retraction	4 (5%)	4 (0.7%)
Local infection	3 (4%)	3 (0.5%)
Skin flap necrosis	2 (3%)	2 (0.3%)

*Values are expressed as n (%).

DISCUSSION

We treat patients with different anatomic variations and clinical presentations at our office on a daily basis, which makes excisional body contour surgery challenging, even for skilled surgeons.

Table 4. Frequency Distribution of Complications among the Procedures*

Procedure	Complications (n = 76)						
	Seroma	Prolonged Bruising	Prolonged Swelling	Anemia	Local Infection	Abnormal Skin Retraction	Skin Flap Necrosis
I	2 (2.6%)						
IIA		1 (1.3%)	1 (1.3%)			1 (1.3%)	
IIB	4 (5.3%)	3 (3.9%)	6 (7.9%)			1 (1.3%)	1 (1.3%)
III	6 (7.9%)	13 (17.1%)	16 (21%)	10 (13.1%)	3 (3.9%)	2 (2.6%)	1 (1.3%)
IV	1 (1.3%)						
V			1 (1.3%)	3 (3.9%)			

*Values are expressed as n (%).

Table 5. Adverse Events by Procedure*

Procedure	Revision Procedure		Additional Same Technique†	
	Full Abdominoplasty (III) (n = 8)	Full Reverse Abdominoplasty (V) (n = 1)	Radiofrequency (n = 6)	J-plasma (n = 4)
I			2 (13%)	1 (11%)
IIA	1 (2.8%)		4 (18%)	3 (21%)
IIB	7 (5%)			
III				
IV		1 (10%)		
V				

*Values are expressed as n (%).
†Radiofrequency and J-plasma were used in 15 and nine patients, respectively, in procedure I, and in 22 and 14 patients, respectively, in procedure IIA.

The advent of new skin retraction technologies (e.g., radiofrequency, plasma devices) has encouraged us to move to more conservative options in selected cases, precisely when indications are not clear, and surgeons may struggle with decisions on which procedure to choose. Both technologies are useful for skin tightening and as a result better results are achieved now compared with those when radical excision procedures were the only option. Nowadays, we use helium plasma–driven radiofrequency more often than the radiofrequency device alone, because the former requires less exposure time; however, we do not recommend one over the other but just give our advice regarding their utility, as any additional comparison would be beyond the purpose of our article. Physicians should carefully consider which device to use depending on their own expertise or training. Our algorithm is founded on the observation and prediction of results according to our professional expertise and the aims of patients undergoing aesthetic procedures rather than reconstructive surgery or procedures after massive weight loss. We created a simple flowchart to categorize patients and analyze their common features in order to interrelate procedures and anatomical variations. After a 6-year period of application of the algorithm, results are satisfactory; a low rate of serious (3.9 percent) and minor (9.5 percent) complications among 563 consecutive patients was found, despite the complexity of the procedures.

Full abdominoplasty was the most frequent procedure and the most prone to complications; nonetheless, we found that it is essentially a safe procedure, as most complications were minor and related to the wound extension. Dynamic definition liposculpture full abdominoplasty, full reverse abdominoplasty, and bridge abdominoplasty are considered safe and reproducible procedures (Figs. 4 through 6). No deep surgical site infections were reported and flap necrosis was only present in two isolated cases, which concurs with data from previous reports.[3] The second most frequent technique was dynamic definition liposculpture mini-lipoabdominoplasty (procedure IIB), which achieved an athletic and youthful appearance by means of a small hidden incision (Fig. 7), in addition to xyphopubic muscular plication. Although not very frequent, sliding mini-abdominoplasty and umbilical descent also attained satisfactory aesthetic outcomes with a low rate of complications (Figs. 8 and 9). The addition of new technologies (radiofrequency and plasma radiofrequency) to these surgical techniques not only improved the skin appearance and retraction but also eased the navel relocation within the umbilical ideal zone without the need for extensive skin resection, especially when muscle plication was not required.

Dynamic definition liposculpture has given excisional body contouring surgery the additional dimension of lights and shadows to the torso, resulting in more natural-looking outcomes. Likewise,

Fig. 4. A 34-year-old woman with a preoperative mid navel (*left*). Large flap resection plus muscular plication was required; the umbilicus predictive location would fall outside the umbilical ideal zone, so procedure III (high-definition liposculpture full abdominoplasty) plus neoumbilicoplasty was scheduled. The 10-week postoperative photograph (*right*) shows a youthful and athletic appearance with a higher navel and a slim abdomen after rectus abdominis muscle plication plus high-definition liposculpture. Lipoaspirate volume was 7300 cc.

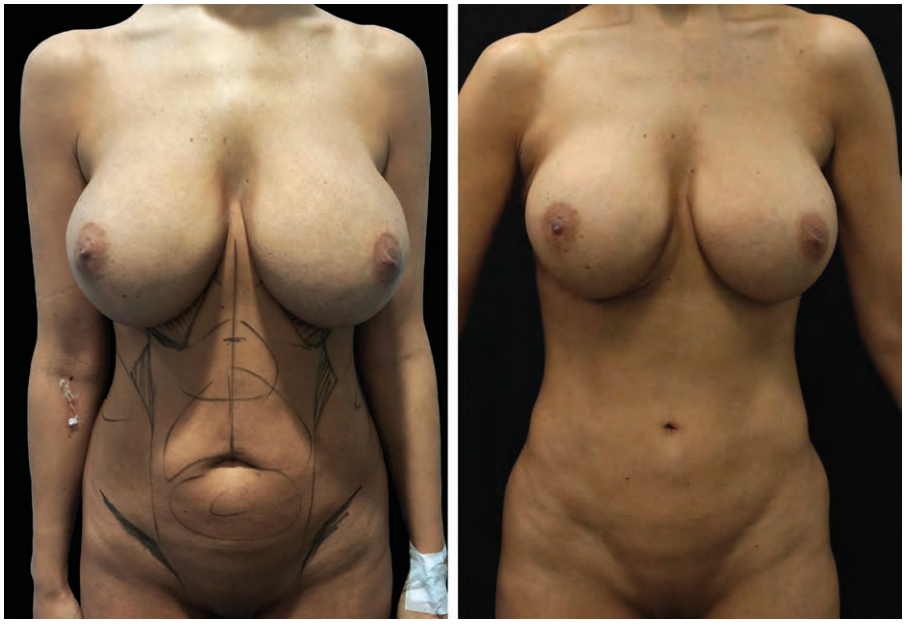

Fig. 5. A 36-year-old woman with a preoperative mid navel (*left*). This patient had an inframammary fold scar from previous breast augmentation mammaplasty. The pinch test in the subxiphoid region was approximately 3 cm, so dynamic definition bridge reverse lipoabdominoplasty (procedure IV) plus bilateral breast implant replacement mammaplasty was performed. The 4-month postoperative photograph (*right*) shows a new abdominal contour with a more athletic appearance, a higher navel, and no visible scars (hidden by the inframammary crease). Lipoaspirate volume was 4200 cc.

Fig. 6. A 47-year-old woman with a preoperative high navel (*left*). Note that navel hooding creates a misperception of a mid-location. The patient requested bilateral mastopexy and her abdomen had predominant upper skin laxity. Therefore, dynamic definition full reverse lipoabdominoplasty (procedure V) plus bilateral inverted-T mastopexy were performed. The 8-week postoperative photograph (*right*) shows a new abdominal contour with a younger and natural appearance, a higher relocated navel, and scars that are dissimulated by the inframammary folds. Lipoaspirate volume was 5700 cc.

the navel's position and appearance have crucial roles in excisional contouring procedures and were critical components in the development of the algorithm. The navel is aesthetically fundamental to the abdomen[18]; a navelless abdomen looks unnatural, as does an abdomen with an incorrectly situated navel,[4,19] which is avoidable with modern plastic surgery techniques.[4] Performing optimum navel relocation to achieve the most natural outcome is important.[20] Many anatomical points have been suggested as ideal for umbilical repositioning after abdominal wall procedures,[21,22] but following strict measures is less than ideal, because each patient has different clinical characteristics, such as height and trunk length. We have shown that the umbilical ideal zone,[3,8] which allows us to classify patients into categories (upper navel, mid navel, and low navel), and the navel predictable location after flap mobilization will help in the decision of which excisional procedure to implement.

Our algorithm will facilitate the choice of the abdominoplasty technique that would best suit the patient, as compared with previous publications.[23] Although the authors have a great deal of experience in body contour surgery and particularly on excisional procedures, the algorithm must be subject to further investigation and broad application to support the findings. Liposuction must be performed carefully when combined with excisional procedures, especially if energy-based devices are used. We attempted to solve important challenges when considering patients who do not fall into a specific group of anatomic features through the application of an algorithm, but our study has limitations, including the lack of inferential statistics analysis and missing information that might be necessary to make the groups comparable. Moreover, the single-center approach limits comparison between techniques for similar patients. Future multicenter cohorts and clinical trials should be conducted to achieve precise standardization for the proposed algorithm. Previous publications about high-definition liposculpture[9] and dynamic definition mini[2] and full[3] lipoabdominoplasty set the fundamentals of the algorithm.

CONCLUSIONS

Early experience with excisional body contouring surgery in addition to recognition of the challenges in terms of decision-making and planning these types of procedures encouraged us to

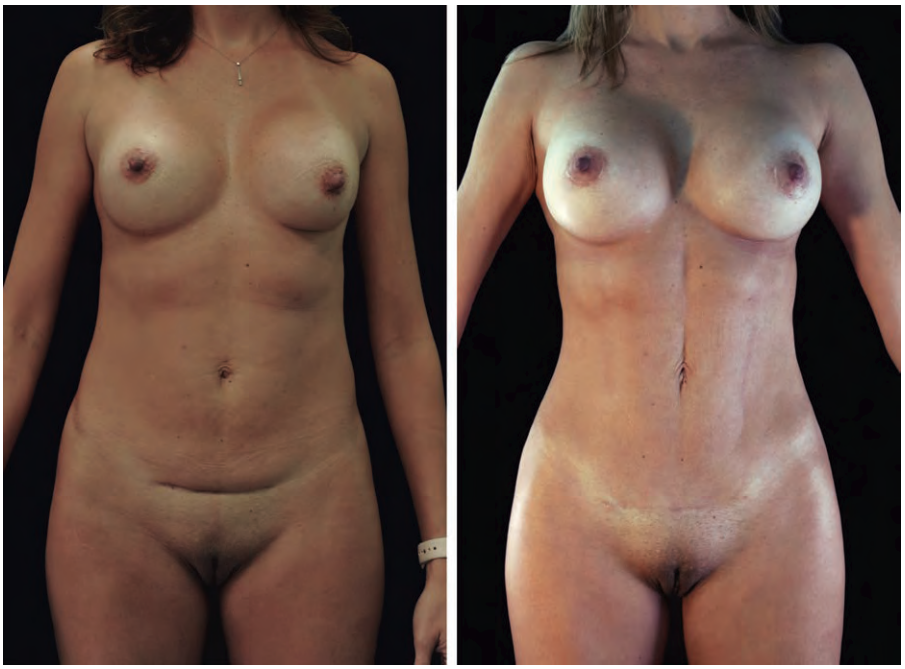

Fig. 7. A 38-year-old woman with a preoperative high navel (*left*). She had a cesarean delivery 10 months ago through Pfannenstiel incision, with subsequent diastasis of the rectus abdominis muscle. Dynamic definition mini-abdominoplasty (procedure IIB) plus muscle plication was performed. The 7-month postoperative photograph (*right*) shows a new athletic and natural abdomen with an almost imperceptible scar, which was completed over the previous cesarean section scar. Lipoaspirate volume was 4100 cc.

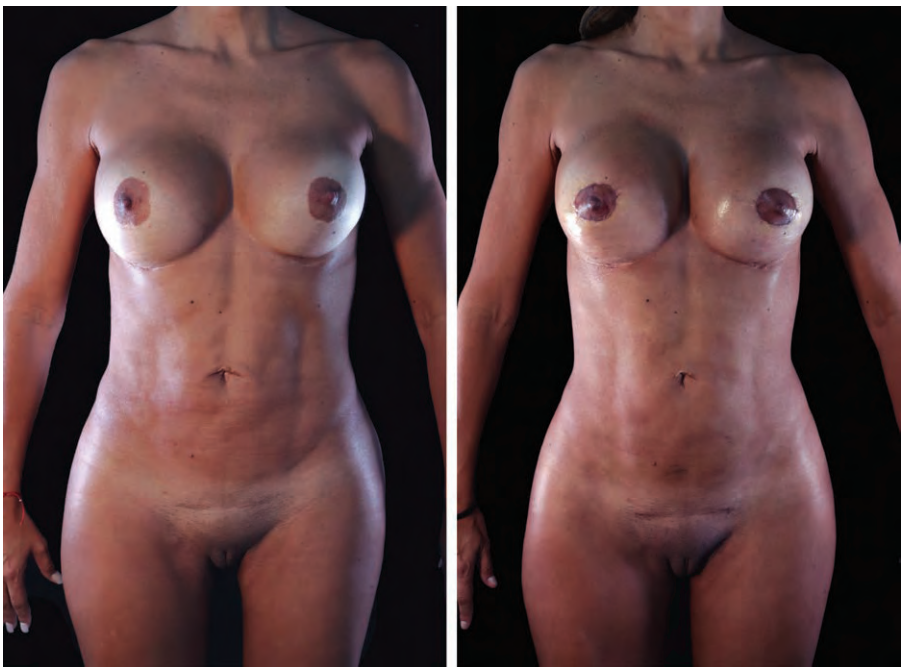

Fig. 8. A 37-year-old woman with a preoperative high navel (*left*). No rectus abdominis diastasis was found and pinch test was approximately 2 cm; no muscular plication was required, and skin resection was beyond 3 cm (approximately 4 cm), so procedure IIA was performed. Note the new fibrosis-free appearance of the abdomen with a corrected hooding of the navel and the muscular appearance achieved with radiofrequency-assisted (Bodytite) high-definition liposculpture (*right*). Lipoaspirate volume was 3400 cc.

Fig. 9. A 32-year-old woman with a preoperative mid-positioned navel and hooding (*left*) who underwent procedure I. Since the pinch test of the lower abdominal region was 1.5 cm, there was not rectus abdominis diastasis and the navel predictive location fell inside the umbilical ideal zone with less than 3 cm descent. The 13-week postoperative photograph (*right*) shows an improved location of the navel with a new athletic appearance after bipolar radiofrequency therapy (BodyTite) and VASER-assisted liposculpture. Lipoaspirate volume was 4800 cc.

develop recommendations through a new algorithm focused on management. The advent of new skin retraction technologies gave us a new perspective for the treatment of certain types of difficult cases; still, they cannot replace the current indications for excisional techniques. Our retrospective review was successful in terms of its effectiveness in classifying patients in the preoperative period in order to achieve positive aesthetic and natural-looking results. The low rate of complications and the postoperative outcomes support the reliability of the algorithm's application. Because the review was conducted in a single center using a unique surgical team, its reproducibility is conditioned by the readers' interpretation and expertise and training on these types of procedures. Further studies and large clinical trials with algorithm implementation are needed in order to support our findings.

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