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ORIGINAL STUDY

Safe monsplasty technique combined with abdominoplasty

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Abstract

Background: One of the most common procedures for changing the shape of a person's body is abdominoplasty, which often includes monsplasty. It is one of the top five procedures in cosmetic surgery. Abdominoplasty and body lift operations may begin with a monsplasty. Here, we detail a novel method for treating pubic deformities triggered by massive weight reduction.

Aim and objectives: The purpose of this research was to evaluate how happy our patients were with the results of their monsplasty and abdominoplasty procedures following significant weight loss. Our team also tried to develop a surgical care decision-making system.

Subjects and methods: This prospective study involves 30 cases designed to assess the outcome of a combination of both abdominoplasty with monsplasty in patients with massive weight loss either dietary or post bariatric surgery.

Result: Every individual in group 1 was quite pleased with their surgical outcomes. At the 6-month follow-up, the surgical correction had appeared permanent, with no signs of residual or recurrent deformity.

Conclusion: The findings of this research provide evidence that modifications to the conventional treatment for pubic deformity following large weight reduction are safe, readily repeatable, provide a high degree of aesthetic and functional outcome, and have long-lasting effects.

Keywords: Abdominoplasty, Aesthetic surgery, Bariatric surgery, Monsplasty

1. Introduction

Monsplasty, often referred to as a mons pubis reduction or pubic lift, is a surgical procedure designed to address excess tissue or fat in the mons pubis region, which is the fatty mound located just above the pubic bone. Abdominoplasty, on the other hand, is a well-known cosmetic surgery procedure that focuses on reshaping the abdomen, often called a tummy tuck. These two procedures can be safely and effectively combined to provide patients with comprehensive aesthetic improvements in the abdominal area. This combination surgery is particularly beneficial for individuals who seek to rejuvenate their lower abdominal region, achieving both a flatter abdomen and an aesthetically pleasing mons pubis [1].

The decision to combine monsplasty with abdominoplasty is rooted in the desire to attain harmonious proportions and contours in the lower abdominal area. For many patients, excess fat and skin accumulation in the mons pubis can be a source of self-consciousness and discomfort. It can also negatively affect clothing choices and overall body confidence. By integrating monsplasty into the abdominoplasty procedure, patients can experience a transformative change that addresses both the lower abdomen and the mons pubis concurrently [2].

One of the key advantages of this combination approach is that it reduces the need for multiple surgeries and separate recovery periods. Patients can achieve their desired aesthetic results through a single surgical session, which not only saves time

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but also minimizes the overall stress associated with undergoing multiple procedures. Moreover, combining these surgeries can often lead to more cost-effective outcomes for the patient, as the surgeon's time and facility fees are consolidated into one surgery [3].

Safety is of paramount importance in any surgical procedure, and combining monsplasty with abdominoplasty is no exception. Surgeons meticulously evaluate each patient's medical history, current health status, and cosmetic goals to ensure they are suitable candidates for the combined procedure. Patients with underlying medical conditions may need additional preoperative assessments or adjustments to the surgical plan to optimize safety [4].

The choice of anaesthesia is a crucial aspect of ensuring the safety and comfort of the patient during the combined monsplasty and abdominoplasty procedures. General anaesthesia is commonly employed to ensure that the patient remains completely asleep and pain-free throughout the surgery. This allows the surgical team to work meticulously and without interruption, enhancing the precision of the procedure and minimizing patient discomfort [5].

In addition to patient evaluation and anaesthesia considerations, the surgeon must carefully plan the incision placements for both the monsplasty and abdominoplasty. This strategic planning is essential to minimize scarring and to position incisions discreetly, often within the natural creases of the body or where they can be easily concealed by clothing or swimsuits [6].

As patients increasingly seek comprehensive aesthetic improvements, the combination of monsplasty with abdominoplasty has emerged as a safe and effective solution. This integrated approach offers the benefits of a single surgery, reduced recovery time, and the opportunity to attain a harmonious and youthful appearance in both the lower abdomen and mons pubis, ultimately enhancing the overall confidence and quality of life for those who choose this procedure [2].

2. Patients and methods

This prospective study involving 30 cases was designed to assess the outcome of the combination of both abdominoplasty and monsplasty in patients with massive weight loss either dietary or post bariatric surgery.

Duration of the study: At least 6 months.

Inclusion criteria: Age: 25–50. Sex: male or female. Post-massive weight loss patients with a 6-month constant weight.

Exclusion criteria: Age extremes. Chronic co-morbid diseases (e.g. Ischemic Heart Disease (IHD), diabetes mellitus, or chronic chest disease). Autoimmune diseases. Bleeding disorders.

Method: All patients were subjected to complete history taking, physical examinations, general examination, local examination, abdominal examination, pelvic examination, abdominal examination, routine laboratory investigations, radiological investigation, and ultrasonography: pelvi-abdominal u.s. transabdominal ultrasound.

Surgical technique: Preoperative work: Assessment of abdominal skin for redundancy: When assessing abdominal skin redundancy, several factors are taken into consideration: skin laxity, distribution of excess skin, amount of redundant tissue, muscle laxity, patient expectations, and goals. Understanding their goals helps the surgeon develop a tailored surgical plan that addresses their specific concerns and provides realistic outcomes. Assessment of pubic area for ptosis and its grade: assessment of Ptosis and Grade in the Pubic Area: When assessing the pubic area for ptosis (sagging or drooping) and determining its grade, the following steps can be followed: Patient Positioning, Inspection, Palpation, Ptosis Classification: The ptosis grade can be determined based on the position of the pubic mound in relation to certain anatomical landmarks. The Regnault classification is one of the most utilized schemes for organizing data: Grade 0: No ptosis. The pubic mound rises to or beyond the height of the pubic bone's apex. Grade 1: Mild ptosis. The prominence in that area of the body lies just below the pubic bone's top border. Grade 2: Moderate ptosis. The pubic mound is significantly lower than the pubic bone's upper border but above the vulvar commissure. Grade 3: Severe ptosis. The pubic mound is below the vulvar commissure. And Measurements can be taken to quantify the degree of ptosis, but these are usually subjective and vary depending on the surgeon's preference. The distance from the pubic bone to the pubic mound or the distance from the pubic bone to the vulvar commissure may be recorded.

Assessment of outcomes of abdominoplasty combined with monsplasty in post-massive weight loss patients: When evaluating the outcomes of abdominoplasty combined with monsplasty in post-massive weight loss cases, the following factors should be considered: patient satisfaction, abdominal contour, scar appearance, mons pubis aesthetics, complications, and before and after photographs.

It is important to note that the assessment of outcomes in any surgical procedure requires a

comprehensive evaluation by a qualified healthcare professional who can consider individual patient factors and tailor the assessment accordingly.

Surgical technique: The description you provided outlines a specific technique used during abdominoplasty combined with monsplasty. Let's break down the details:

- (1) **Medial stitch:** The first stitch was placed medially, among the camper fascia (a fatty layer) and the aponeurosis (tendon-like structure) of the abdominal muscle. This stitch helps provide support and secure the abdominal wall.
- (2) **Abdominal fascial stitches:** Several stitches were placed in the abdominal fascia, which is the strong connective tissue layer covering the abdominal muscles. These stitches were positioned a few centimeters above the lower scar, typically 2–8 cm higher depending on the degree of ptosis (sagging). These stitches help tighten and reinforce the abdominal wall.
- (3) **Lateral stitches:** Two stitches were made laterally, originating from a point 5 cm laterally to the median line (midline) of the monsplasty (pubic region). These stitches extended to the periosteum (outer layer of bone) of the anterior superior iliac spine (a bony prominence in the pelvic area). These lateral stitches were aimed at providing tension in an oblique external direction, with the goal of making the resulting scar more horizontal. This helps elevate and flatten the pubic region.
- (4) **Restoring mons pubis shape:** The overall aim of the technique was to restore the mons pubis (the fatty tissue overlying the pubic bone) to an inverted delta shape. By applying tension to the pubic region, it is elevated and flattened, resulting in the desired inverted delta appearance.

Postoperative work: In the postoperative care of patients who underwent abdominoplasty combined with monsplasty, the following protocol was followed:

- (1) **Mobilization:** cases were encouraged to start mobilizing on the first day after surgery. Early mobilization helps prevent complications such as blood clots, improves circulation, and aids in the recovery process.
- (2) **Thromboembolic prophylaxis:** To reduce the risk of thromboembolism (blood clots), patients received enoxaparin, a medication that helps

prevent clot formation. The dosage used was 4000 IU (international units) once daily. This prophylactic treatment was administered for a duration of 15 days.

- (3) **Compression stockings:** Patients were instructed to wear compression stockings for a period of 4 weeks. Compression stockings help improve blood flow, reduce swelling, and lower the risk of deep vein thrombosis (DVT) by applying pressure to the lower extremities.
- (4) **Dressing changes:** The dressings applied to the surgical incisions were changed every two days until complete healing was achieved. Regular dressing changes help maintain cleanliness, prevent infection, and monitor the progress of wound healing.
- (5) **Surgical compression garments:** Patients were advised to wear surgical compression garments for a period of 2 months. These garments provide gentle pressure and support to the treated areas, helping to reduce swelling, promote skin retraction, and optimize the final aesthetic outcome.

It's important to note that postoperative care protocols can vary among surgeons and individual patient needs. The specific duration of thromboembolic prophylaxis, use of compression stockings, and timing of dressing changes may be adjusted based on the patient's condition and the surgeon's preference. Close monitoring and follow-up with the surgical team are essential to ensure proper healing and minimize the risk of complications.

Ethical consideration: the data that were obtained from participants are confidential. No report or publication about the research involved any identifying information about the research's participants. Before participants were enrolled, they were given information about the study's goals and procedures and given a chance to ask questions about the potential risks and benefits involved. Informed consent was obtained.

2.1. Statistical analysis

Recorded data were analyzed using the statistical package for social sciences, version 23.0 (SPSS Inc., Chicago, Illinois, USA). The quantitative data were presented as mean \pm standard deviation and ranges when their distribution was parametric (normal).

Also, qualitative variables were presented as numbers and percentages. Data were explored for normality using the Kolmogorov–Smirnov and Shapiro–Wilk test.

The following tests were done: Independent-samples *t*-test of significance was used when comparing between two means.

- (1) The Comparison between groups with qualitative data was done by using the χ^2 test.
- (2) The CI was set to 95% and the margin of error accepted was set to 5%. So, the *p* value was considered significant as the following:
- (3) Probability (*P* value)
 - (a) *P* value less than or equal to 0.05 was considered significant.
 - (b) *P* value less than or equal to 0.001 was considered as highly significant.
 - (c) *P* value greater than 0.05 was considered insignificant.

3. Results

At the 6 months follow-up, a final questionnaire targeting (30) patients' postoperative aesthetic and functional satisfaction was filled out by the patients in both groups.

The 30 patients were divided into two groups (group A), and (group B), as follows:

Group A: 19 patients who had undergone monsplasty with abdominoplasty.

Group B: 11 patients who opted for standard abdominoplasty without monsplasty [Table 1](#).

The table presents demographic data comparing Group A (*N* = 19) and Group B (*N* = 11). Group A has a slightly higher mean age (39.0 years) compared to Group B (37.72 years).

However, the age difference is not statistically significant (*P* = 0.395). Regarding BMI, Group A (Mean = 31.18 kg/m²) has a slightly higher average than Group B (Mean = 30.40 kg/m²), but the difference is not statistically significant (*P* = 0.220). Further analysis may be needed to draw conclusive insights [Figs. 1 and 2, Table 2](#).

Table 1. Demographic data for Group A and Group B.

Demographic data	Group A (N = 19)	Group B (N = 11)	Test value	P value
Age (years)				
Mean ± SD	39.0 ± 3.77	37.72 ± 4.10	0.863	0.395
Range	29–44	27.5–33.5		
BMI (Kg/m ²)				
Mean ± SD	31.18 ± 1.73	30.40 ± 1.45	1.254	0.220
Range	80–100	85–100		

Using: *t*-independent sample *t*-test for Mean ± SD; when appropriate *P* value > 0.05 is insignificant.

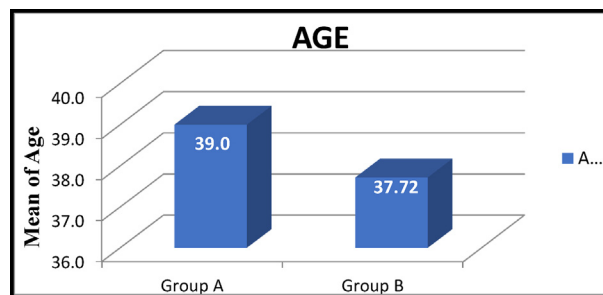


Fig. 1. Comparison between group A and group B according to age (years).

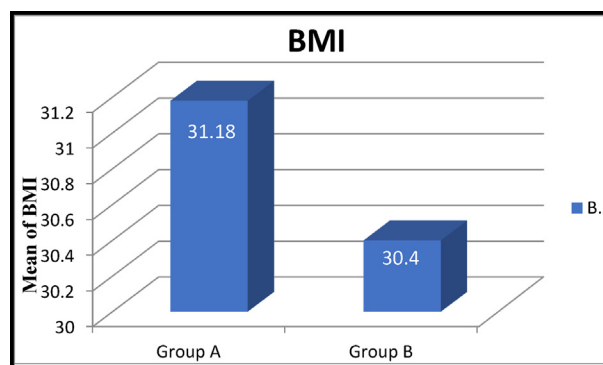


Fig. 2. Comparison between group A and group B according to BMI (Kg/m²).

The table compares group A (*N* = 19) and group B (*N* = 11) with respect to monsplasty and satisfaction. In group A, all participants underwent Monsplasty and were 100% satisfied. In contrast, none in group B had Monsplasty, and only 18.2% were satisfied. The difference in satisfaction between the groups is statistically significant (*P* < 0.001**).

There was no residual or recurrent deformity at the 6-month follow-up. And the results of the surgery seemed to be long-lasting (see [Fig. 3](#)).

Table 2. Comparison between group A and group B according to undergoing abdominoplasty with Monplasty or not and satisfaction.

	Group A (N = 19) N (%)	Group B (N = 11) N (%)	Test value	P value
Monsplasty				
Yes	19 (100)	0	–	–
No	0	11 (100)		
Satisfaction				
Satisfied	19 (100)	2 (18.2)	22.208	<0.001**
Not satisfied	0	9 (81.8)		

χ^2 , *P* value > 0.05 is insignificant.

***P* value < 0.001 is highly significant.

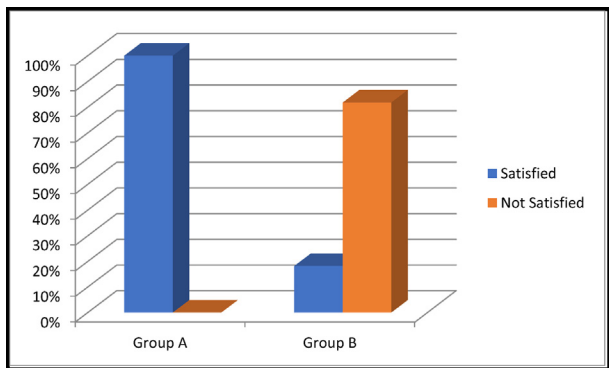


Fig. 3. Comparison between group A and group B according to the percentage of satisfaction.

Case (1)



A male patient aged 28 years with no medical history of any chronic diseases, no regular medications, and the patient's weight was 140 kg,

height 172, and his BMI was 47.3. A sleeve gastrectomy was done and he lost 60 kg, his weight became 80 kg 1-year post-surgery and his BMI became 26.8.

Case (2)



A female patient aged 43 years with no medical history of any chronic diseases, and no regular medications, her weight before surgery was 130 kg, height 167, and BMI was 46.6. A sleeve gastrectomy was done, and 8 months later her weight became 85 kg, BMI 30.4.

Case (3)

A female patient aged 43 years with no medical history of any chronic diseases and no regular medications, her weight before surgery was 130 kg, height 167, and BMI was 46.6. A sleeve gastrectomy was done, and 8 months later, her weight became 85 kg, BMI 30.4.

4. Discussion

Our monsplasty method is a valuable adjunct to abdominoplasty or lower body lift surgeries, as it provides a quick and easy solution to the problem of

pubic deformity, with positive outcomes in terms of both aesthetics and function. Patients seeking consultation after significant weight loss due to abdominal concerns. However, when deformity in the pubic area is not rectified during the first operational phase, functional and cosmetic pain owing to pubic ptosis might occur as a result of abdominoplasty alone. This straightforward procedure yields great short- and long-term results with low morbidity, and it also improves both function and appearance. We feel that doing a monsplasty at the same time as an abdominoplasty or surgical body lift is required since surgical repair of a body segment may increase deformities in a neighbouring location.

Monsplasty and lower trunk reconstruction can be done at the same time if the surgeon so chooses. We choose this method since it is quick, easy, and doesn't require additional time under anaesthesia to accomplish considerable functional and cosmetic improvement.

Several methods have been offered to accomplish the same level of correction. In certain cases, just liposuction was employed. Individuals should be informed that they may have genital region oedema and bruises. Awadeen suggested burying the de-epithelialized area of the mons pubis above the abdominoplasty to hide the extra skin that will be removed during the procedure [7].

Among the fourteen instances documented, two occurrences of wound dehiscence occurred. All of the participants were pleased with the cosmetic results, and many also noted an improvement in their sexual relations and overall hygiene. El-Khatib Depending on the El-Khatib categorization grade, the surgeon may first do liposuction, next panniculectomy (deep layer excision), and finally pubis pexy [8].

Our group has already documented many instances of monsplasty utilizing more conventional methods of undermining. Through trial and error, we were able to replace our risky undermining method with one that we believe is just as effective but far safer. Disunion ($n = 1$), ptosis recurrence ($n = 2$), and pubic oedema ($n = 1$) were the four problems documented by El-Khatib (3.03%). Both authors and patients were pleased with the aesthetic outcomes, as measured by a Likert scale and an assessment questionnaire administered throughout the follow-up period. Pechevy *et al.* [9] Three (14.04%) individuals experienced lymphocele development, requiring one or two punctures and compressive packing for 15–21 days. The Rosenberg self-esteem measure was employed to analyze the results. Overall, people's ratings of themselves went up by 10.08 points.

The majority of individuals who underwent pubic cosmetic enhancement surgery reported being happy or very delighted with their results. Marques *et al.* [10] The horizontal abdominoplasty incision is represented by the broader base of the trapezoid-shaped excision that has been documented. The side that was parallel was positioned 7–10 cm above the front vulvar commissure. The inguinal folds were delineated 1.5–2.5 cm above the oblique sides of the trapezoid. The lamellar layer of fat, located above the superficial fascia, was sliced off of individuals with severe subcutaneous fat excess. Following excision, the pubic superficial fascia was sutured to the abdominal flap fascia, and the flap fascia was secured to the anterior rectus abdominis aponeurosis. Only female patients were treated using this technique.

Infection, scar hypertrophy, chronic swelling, clitoral deformity, and oedema were the complications. When an abdominoplasty is complete, Filho *et al.* [11] employed dermolipectomy to remove a triangle of skin from the anterior vulvar commissure's base to its peak. The triangle's size varied with each scenario. The analysis revealed that the pubogenital region, which typically takes the shape of a triangle or a reverse delta, is reduced in size as a result of vertical scar reduction.

Rezak and Borud [12] performed a vertical medial thigh lift utilizing monsplasty employing a double-triangle method.

Multiple major difficulties are linked to each of these several approaches. All methods demonstrated satisfactory outcomes but with ongoing niggling problems. To achieve the same aesthetic outcomes with fewer problems, we have devised this innovative method. Therefore, our straightforward method, which is not linked to difficulties, is appropriate for the treatment of pubic ptosis of any degree. We feel that monsplasty is a quick treatment that does not alter the postoperative course (hospital stay), thus, we conduct it at the same time as abdominal contouring. Traditional (level 1) analgesics are necessary for the discomfort caused by the two lateral sutures for a period of 10–14 days. Under-correction is a possible downside (it didn't happen in our series), but it's readily fixed with liposuction or a second surgery.

The horizontal scar may also become more prominent. The majority of our patients report being pleased with both the cosmetic and functional outcomes. We found that reducing the distance from the vulvar fork to the starting point from 7 cm to 5 cm yielded much better outcomes. Neither the authors nor the patients in our series had any

complaints about the cosmetic results throughout the follow-up period.

Participants reported significant enhancements in many areas of everyday living, including clothing, personal cleanliness, psychological factors, and sexuality. However, when the pubis is raised, the anterior commissure of the vagina is also raised, which may temporarily alter sexual experiences. A patient with altered sexual experiences (during the first 6 months following surgery) has been described lately.

Because patients who have undergone bariatric surgery tend to have loose, poor-quality skin, this method makes use of non-absorbable wire. The recurrence of pubic ptosis is less likely to occur with this method. Initially, we used absorbable stitches to accomplish a monsplasty, however, we later found scar asymmetries in relation to re-ptosis. Since then, we have successfully fixed the issue (no recurrence of ptosis) by using non-absorbable sutures instead of threads. We have not yet developed quality surveys, but patients prefer a mons pubis that is flat with a scar that is slightly raised.

4.1. Conclusion

Simple adjustments made during abdominoplasty surgery planning may lead to higher levels of patient satisfaction with their new bodies. The key modifications include securing the abdominal flap, repositioning the pubis in the rectus abdominis sheath, and reducing the size of the mons pubis flap.

During abdominal contouring, a well-planned incision can be employed to safely execute a monsplasty and boost patient satisfaction while also enhancing the pubic region's aesthetics and functionality. The results of this research demonstrate that the modifications to the conventional treatment for pubic deformity following large weight reduction are safe, easily replicable, provide an excellent aesthetic and functional outcome, and have enduring effects.

4.2. Limitation

Despite the forward-looking nature of our project, a few caveats need noting. Firstly, there weren't a lot of people in the participant cohort. Second, there was just a single surgeon involved in the procedures. Due to the potential for bias, our findings should be regarded with care. If you want to prove that one method is better than another, you need to conduct controlled research. More long-term studies are needed with bigger groups of individuals.

Author contributions

Data collection, scientific writing and statistical analysis: Ebrahim A. Rizk, Maurice F. Khalil.

Ethics information

The institutional committee's ethical criteria were followed during all proceedings. The Ethics Committee of the Scientific Research, GOTH, Ministry of Health, Egypt approved the study (No. HM00170). Following an explanation of the purpose, procedures, and nature of the study to all participants, signed informed consent was obtained from each participant.

Conflict of interest

There are no conflicts of interest.

Institutional Review Board (IRB) Approval Number

HM00170.

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