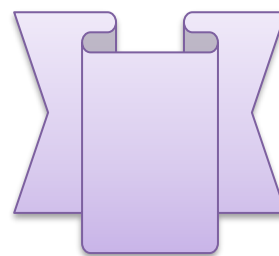
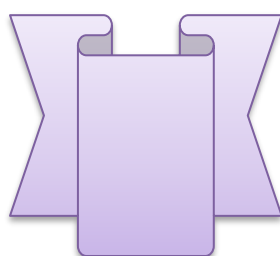
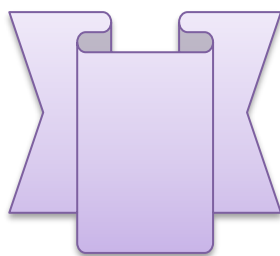
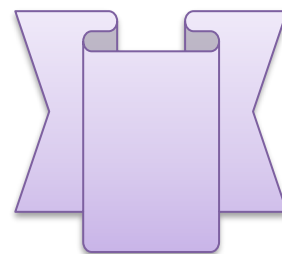
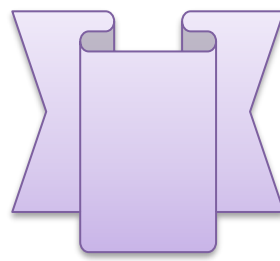
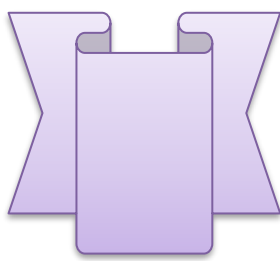
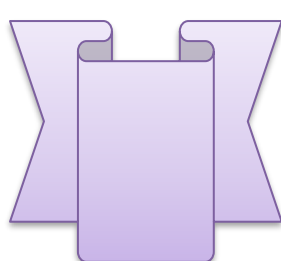
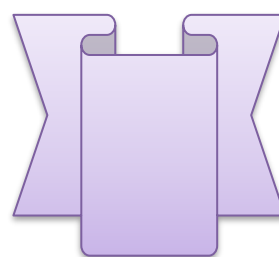
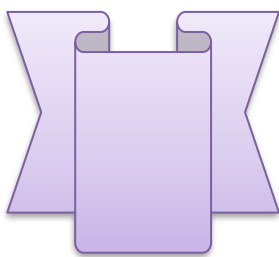
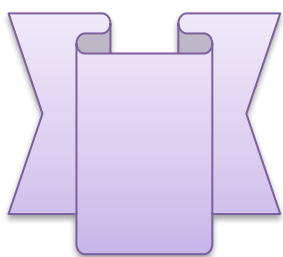


INTERNATIONAL JOURNAL OF MEDICAL ARTS



Volume 5, Issue 10, October 2023

<https://ijma.journals.ekb.eg/>



Print ISSN: 2636-4174

Online ISSN: 2682-3780



Available online at Journal Website
<https://ijma.journals.ekb.eg/>
 Main Subject [Surgery]



Original Article

Assessment of Outcomes of Abdominoplasty Combined with Monsplasty in Post Massive Weight Loss Patients

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ABSTRACT

Article information

Received: 05-08-2023

Accepted: 21-11-2023

DOI: 10.21608/IJMA.2023.227291.1760.

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Citation: Mahmoud MA, Abdel-Maksoud MA, Almezaian OFI. Assessment of Outcomes of Abdominoplasty Combined with Monsplasty in Post Massive Weight Loss Patients. IJMA 2023 October; 5 [10]: 3750-3756. doi: 10.21608/IJMA.2023.227291.1760.

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 of the Work: 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.

Patients and Methods: This prospective study involved 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. The 30 patients were divided into two groups: Group A: 19 patients who had undergone monsplasty with abdominoplasty, and Group B: 11 patients who opted for standard abdominoplasty without monsplasty.

Results: 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. 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.

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; Monsplasty; Aesthetic surgery; Bariatric surgery.



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INTRODUCTION

The abdomen plays an essential part in the aesthetic appearance of the human body and is of the greatest importance in defining the individual's overall contour [1]. People are more interested in the health advantages of weight loss as the prevalence of obesity increases. They want to know their future abdomen shape before they start losing weight. Many people who have lost a significant amount of weight struggle with the appearance of loose skin and an unattractive mons pubis after their weight has been reduced [2,3].

Abdominoplasty combined with monsplasty is among the most sought-after methods of body sculpting. It's one of the top five most popular cosmetic surgery treatments nowadays. Abdominoplasty is performed to restore a trim physique by eliminating unwanted skin and fat. Expectations for patients undergoing abdominoplasty and monsplasty involve enhanced appearance, self-esteem, and quality of life. Abdominoplasty with monsplasty has proven effective in these regards, in addition to enhancing patients' functional status [4,5].

Abdominoplasty and body lift operations may begin with a monsplasty. We provide a novel method for treating pubic deformities resulting from massive weight reduction [5]. Patients are sometimes disappointed with the results of these operations because of the visible distortion in the pubic region if monsplasty is not performed concurrently [6].

A patient's cosmetic or functional outcome may be negatively impacted if the mons region is ignored during belly reshaping. We analyzed the satisfaction rates, functional outcomes, and cosmetic results of women who had monsplasty for belly reshaping to see if there were statistically significant improvements in any of these areas [7].

So, the purpose of this study is 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.

PATIENTS AND METHODS

This prospective study involving 30 cases was 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. Ethical approval was obtained from our institution. The 30 patients were divided into two groups: Group A: 19 patients who had undergone Monsplasty with abdominoplasty, and Group B: 11 patients who opted for standard abdominoplasty without Monsplasty. Written consent was obtained from every patient before recruitment. We included the patients according to the following criteria:

The inclusion criteria were: 1] Age: 25-50. 2] Post massive weight loss patients with a six-month constant weight.

The Exclusion criteria were: 1] Age extremes. 2] Chronic co-morbid diseases [e.g. IHD, DM or chronic chest disease]. 3] Autoimmune diseases. 4] Bleeding disorders.

Data collection: All patients were subjected to complete history taking, General examination, Abdominal examination, Pelvic examination, Routine laboratory investigations, and Pelvi-abdominal Ultrasonography.

Preoperative 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: The following steps were followed for assessment: 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].

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

The following factors were considered: patient satisfaction, abdominal contour, scar appearance, mons pubis aesthetics, complications, and before and after photographs.

Surgical technique

1] Medial Stitch

The 1st 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.



Figure [1]: Operative steps of a case from group A; [A] Preoperative, [B] intraoperative [medial stitch], [C] intraoperative [lateral stitch], [D] postoperative

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.

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± standard deviation and ranges when their distribution was parametric [normal]. Also, qualitative variables were presented as number and percentages. Data were explored for normality using Kolmogorov-Smirnov and Shapiro-Wilk Test. Qualitative data were analyzed by the Chi-square test, and the comparison between the two groups regarding the quantitative data was done using the independent t test.

RESULTS

Table [1] 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.

Table [2] 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 months follow up. And the results of the surgery seemed to be long-lasting.

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/m²]				
Mean ±SD	31.18 ± 1.73	30.40 ± 1.45	1.254	0.220
Range	80-100	85-100		

Table [2]: Comparison between group A and group B according to undergoing abdominoplasty with Monsplasty or not and satisfaction

		Group A [n=19]		Group B [n=11]		P-value
		N	%	N	%	
Monsplasty	Yes	19	100%	0	0%	—
	No	0	0%	11	100%	
Satisfaction	Satisfied	19	100%	2	18.2%	<0.001**
	Not Satisfied	0	0%	9	81.8%	

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 monsplasty at the same time as abdominoplasty or surgical body lift is required since surgical repair of a body segment may increase deformities in a neighboring 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 anesthesia 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 edema and bruises. **Awadeen** ^[8] 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.

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. Depending on the **El-Khatib et al.** ^[9]'s categorization grade, the surgeon may

first do liposuction, next panniculectomy [deep layer excision], and finally pubis pexy.

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 edema [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.** ^[10], 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. In the study by **Marques et al.** ^[11], 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 centimeters 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.** ^[12] employed dermo-lipectomy 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 ^[13] 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 less 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 post-operative 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 seven centimeters to five centimeters 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 six 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 the threads. We have not yet developed quality surveys, but patients prefer a mons pubis that is flat with a scar that is slightly raised.

Despite the forward-looking nature of our project, a few caveats need noting. Firstly, there wasn'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 a controlled research. More long-term studies are needed with bigger groups of individuals.

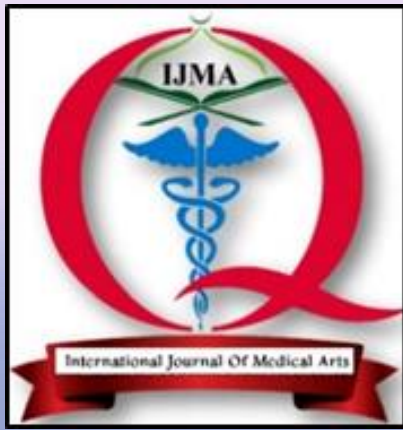
Conclusion: Simple adjustments made during abdominoplasty surgery planning may lead to higher levels of patient satisfaction with their new bodies. The key modifications include securing the abdominal flap, repositioning the pubis in the rectus abdominis sheath, and reducing the size of the mons pubis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

Financial and non-financial relations and activities of interest: None

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International Journal

<https://ijma.journals.ekb.eg/>

Print ISSN: 2636-4174

Online ISSN: 2682-3780

of Medical Arts