

Is it Safe to Do Liposuction with Abdominoplasty?

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ABSTRACT

Introduction: Abdominoplasty is one of the most common procedures in aesthetic surgery. Different techniques were attempted to give the patient a better result. Liposuction was introduced to have a well formed trunk contour.

Material and Methods: In this study 16 patients were operated upon by combined liposuction and abdominoplasty. The age ranged between 28 and 48 years. All of them were females. The main complaint was deformed abdominal contour and redundant abdominal skin.

Result: The amount of fat removed by liposuction ranged between 1400 CC. and 2600 CC. The time of the operation ranged between 3 hours to 5 hours. Patient satisfaction was 81.25%. Complications were residual abdominal bulging and redundancy in one patient, parasthesia in the lower part of the abdomen in another patient and necrosis in the lower central part of the abdominal flap in a third patient.

Conclusion: Combined liposuction and abdominoplasty is a safe procedure and does not increase the complication rate in a properly selected patient and technique.

INTRODUCTION

Abdominoplasty is one of the most common procedures in aesthetic surgery. It has undergone a significant evolution over the past several decades. Kelly was one of the first surgeons to attempt to correct excess abdominal skin and fat [1,2]. By 1960s surgery evolved into the classic abdominoplasty which was performed through a variety of low transverse incisions with wide undermining and muscle plication [3]. Liposuction became the cornerstone in the management of body contour surgery and actually defined plastic surgery entry into minimally invasive and small scar surgery. The combination of liposuction and abdominoplasty has been slow to be accepted, primarily due to a perceived higher incidence of complications associated with the procedure. There has also been extensive debate about the combined procedure's effects on flap vascularity and viability and the extent to which liposuction may be performed in conjunction with surgical abdominoplasty [4].

The most common cause of abdominal deformity is multipregnancy. Pregnancy stretches the skin beyond its biochemical capability to spring back and stretches the musculoaponeurotic structures of the abdominal wall. The result is stretching and thinning of these structures and diastases of rectus muscle. If skin retraction has not occurred in approximately 6 months after delivery, it probably will not occur. Massive weight loss, whatever the cause also plays a role in excess skin and laxity of the abdominal wall. It is mandatory to define the abdominal deformity separately as to achieve the ideal aesthetic and functional result. Hence, the three primary components of the abdominal deformity, the skin, fat and musculoaponeurotic system help to define the severity of the problem and to select the suitable treatment [5]. Many authors propose several classifications of the abdominoplasty candidates. All the classifications are based on the three components of the abdominal deformity. According to these components, Eaves in 1995 classified abdominoplasty into three groups:

Group 1: Skin: Normal to slight excess.

Fat excess: Mild to moderate.

Musculoaponeurotic: Normal.

Group 2: Skin: Normal to slight excess.

Fat excess: Mild to moderate.

Musculoaponeurotic: Normal.

Group 3: Skin: Moderate to severe.

Fat excess: Moderate to severe.

Musculoaponeurotic: Normal or abnormal.

Group 1 patients respond well to liposuction alone. Group 2 patients are often treated with miniabdominoplasty procedure with infraumbilical plication of muscles. While group 3 patients are best treated with standard open abdominoplasty plus muscle plication with or without liposuction [7].

PATIENTS AND METHODS

This study was done on 16 patients. The age ranged 28 to 48 years. All of them were females. The follow up period ranged from 8 to 18 months. All patients were classified as group 3 according to Eaves classification. The main complaint was deformity of the abdominal contour and redundant abdominal wall. Only 2 patients were complaining of paraumbilical hernia in addition. One patient presented with post-appendectomy scar in the right iliac fossa and post-cholecystectomy scar in the right hypochondrium. Patients with severe comorbid disease like ischemic heart disease or obstructive lung disease were excluded. All patients were subjected to preoperative photography. Full laboratory investigations were done in the form of complete blood picture, blood sugar, hepatitis viruses, liver and kidney function tests. Electrocardiogram was done for patients over 40 years.

Surgical procedures:

Preoperative markings were done while the patient in the standing position. Anti deep vein thrombosis measures were followed. The patient was positioned on the surgical table with the knee joint flexed on a soft pillow. Crepe bandage was applied on both lower limbs. Prophylactic heparin 5000 IU was given IV to the patient 1 hour before surgery.

Liposuction was done first using the tumescent technique by infiltrating lactating Ringer solution containing lidocain 1% (25ml per liter) and epinephrine (1: 500,000). The infiltration of this mixture was used till the skin became tense and firm. Skin incisions were done in the umbilical, suprapubic and in the groin areas and using No 4 blunt canula in the right hand while holding the skin and fat by the left hand. The canula is kept all the time parallel to the skin and abdominal wall muscles. Suction of fat must be in a fan shaped and in different directions till the subcutaneous fat thickness is nearly the same in different areas of the abdominal wall.

After finishing liposuction, the abdominoplasty operation started. An incision was done in the lower abdominal crease. The upper flap was elevated using the electrocuttery till the umbilicus and flap elevation was continued only in the central part above the umbilicus till the xiphysternum sparing the lateral areas to preserve the blood vessels supplying the flap from both lateral sides. The umbilicus is dissected keeping enough fatty tissue around the umbilical stalk to have a good blood supply. An elliptical excision of the skin

after marking the new umbilical site in the half way line between the xiphysternum and the symphysis pubis. Plication of the rectus sheath was done in two layers starting from the xiphysternum to the symphysis pubis keeping enough space in the size of the little finger around the stalk of the umbilicus to not affect its blood supply.

After good haemostasis the flap was stretched down while the bed was broken under the pelvis of the patient. The excess skin and fat was excised. The umbilicus was delivered from the new opening in the flap and sutured in place in a longitudinal direction and fixed to the rectus sheath. The wound was closed in two layers starting from both lateral sides to the middle point of the wound to avoid dog ear formation. Two suction drains were fixed and light dressing was applied to the wound followed by abdominal binder.

Post-operative follow-up:

Early ambulation was encouraged in the same night of the operation with enough fluid intakes. Physiotherapy for both lower limbs was followed by dorsiflexion of both feet and massage of both calf muscles every 6 hours. The drains were removed when discharge was less than 30 cc/day. Abdominal binder was advised for 3 month. The sutures were removed in the 10th post-operative day.

RESULTS

The study was done on 16 patients presented with redundancy of the abdominal skin and fat or bulging and discrepancy of the abdominal contour. All patients were females with age ranging from 28 to 48 years. One female was complaining of paraumbilical hernia in addition to her main problem.

The amount of fat removed by liposuction ranged from 1400 cc to 2600 cc. with little blood in the suction jars. The procedure, both liposuction and abdominoplasty, time ranged from 3 hours to 5 hours. The hernia was corrected by herniorrhaphy using proline mesh in that case who had been presented with paraumbilical hernia.

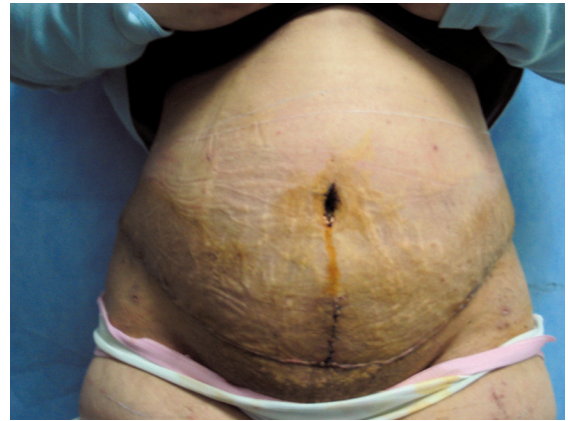
Patient satisfaction was achieved in 13 cases (81.25%). One patient was not happy with the residual bulging of the abdomen. Another patient was complaining of parasthesia in the lower central part of the abdominal wall which resolved after 9 months. The third patient presented with necrosis in the lower central part of the flap about 5x3cm. This case was treated with surgical debridement followed by frequent dressing. The residual wound

healed by 2ry intension leaving central minor scar after 2 months. No seroma was seen in any patient. Although one patient presented with a scar of a previous appendectomy and another scar after open

cholecystectomy operations, there was no necrosis in the abdominal flap as in this patient undermining of the flap was limited to the infra-umbilical area only.



Case (1-A): Preoperative.



Case (1-B): Postoperative.



Case (2-A): Preoperative.



Case (2-B): Postoperative.



Case (3-A): Preoperative.



Case (3-B): Postoperative.

DISCUSSION

The first abdominoplasty was performed by surgeons who were repairing massive umbilical hernias. In the evolution of the technique, three methods have been advocated vertical midline

resection, transverse resection, and a combination of the vertical and transverse methods. During the period 1960's to the 1980's it became obvious that low transverse incision was the preferred choice for patients undergoing abdominoplasty [8]. Grazer described the so called bikini line incision [9].

Grazer and Goldwyn reported the first complications using new technique [10].

Concerns over the safety of combining extensive liposuction with abdominoplasty in a one stage lipoabdominoplasty procedure persist [13]. In 2006, Ruth Graf et al., reported that patients end up with a better body contour as liposuction is simultaneously performed with abdominoplasty reducing the revision rate in the postoperative period [11]. In our study all complications were controlled and few major complication was recorded. Simons et al., mentioned that combining abdominoplasty with additional surgical procedure does not lead to increased complication rates and it is safe with carefully selected patients and appropriate deep vein thrombosis prophylaxis [12]. Lipoabdominoplasty technique combined with current preoperative and postoperative protocols is believed to be a safe procedure that results in excellent cosmetic results. In contrast to some of the current literature, the data shows a reduction of overall complications as compared to historical norms [4]. Also Salem et al., [13] mentioned that lipoabdominoplasty is not associated with a statistically significant increase in perfusion-related complication rates as compared with traditional abdominoplasty, despite the fact that involves potential trauma to the vascularity of the elevated abdominoplasty flap. This holds true even in patients who are at increased risk for perfusion-related complications secondary to a history of active smoking or a previous supraumbilical scar.

Conclusion: Combined liposuction with abdominoplasty is a safe procedure and does not increase the complication rates in a properly selected patient and technique.

REFERENCES

- 1- Kelly H.A.: Report of gynecological cases (excessive growth of fat). John Hopkins Med. J., 10: 197, 1899.
- 2- Kelly H.A.: Report of fat of the abdominal wall lipectomy. Surg. Gynecol./Obst., 10: 299, 1910.
- 3- Wael M.R. Sakr: Liposuction and Dermolipectomy Technique in Huge Abdominoplasty Patients. Egypt. J. Plast. Reconst. Surg. Vol. 27, No. 2, 305-10, 2003.
- 4- Jonathan Weiler, Pamela Taggart and Karman Khoobehi: A case for the safety and efficacy of lipoabdominoplasty. A single surgeon retrospective review of 173 consecutive cases. Aesth. Surg. J., 30 (5): 702-13, 2010.
- 5- Greminger R.F.: The miniabdominoplasty. Plast. Reconst. Surg., 79: 356, 1987.
- 6- Eaves F.F.: International course in Endoscopic Plast. Surg. Emory University School of Medicine. Division of Plast. Reconst. and Maxillofacial Surg., 1995.
- 7- Matarasso A.: Liposuction as an adjunct to full abdominoplasty. Plast. Reconst. Surg. April, 829, 1995.
- 8- Matarasso A.: Liposuction as an adjunct to full abdominoplasty revisited. Plast. Reconst. Surg., 106 (5): 1197-1202, 2000.
- 9- Grazer F.M.: Abdominoplasty. Plast. Reconst. Surg. June, 51 (6): 617-23, 1973.
- 10- Grazer F.M. and Goldwyn R.M.: Abdominoplasty Assessed by survey. Plast. Reconst. Surg., 59 (4): 513-7, 1977.
- 11- Ruth Graf, Luiz R.A., Ronald R., et al.: Lipoabdominoplasty: Liposuction with reduced undermining and traditional abdominal skin flap resection. Aesth. Plast. Surg., 30: 1-8, 2006.
- 12-Simon S., Thaller S.R. and Nathan N.: Abdominoplasty combined with additional surgery: A safety issue. Aesth. Surg. J. Am. Society for Aesth. Plast. Surg., 26 (4): 413-6, 2006.
- 13- Salem S., Rajendra S.M., Oliver B. and John A.P.: Complication rates of lipoabdominoplasty versus traditional abdominoplasty in high-risk patients. Plast. Reconst. Surg., 125 (2): 683-90, 2010.