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Abdominoplasty with “Scarpa Fascia” preservation: Case Report

Antonio Iannelli^a, Francesco Ciancio^{a,*}, Paolo Annoscia^a, Michelangelo Vestita^a,
Rosario Emanuele Perrotta^b, Giuseppe Giudice^a, Michele De Robertis^c^a Department of Plastic and Reconstructive Surgery, University of Bari, Italy^b Department of Plastic and Reconstructive Surgery, University of Catania, Italy^c U.O. Chirurgia Plastica – Ospedale Madonna delle Grazie, Matera, Italy

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ABSTRACT

INTRODUCTION: Abdominoplasty is one of the most performed operations in Plastic Surgery in the world. Postoperative seroma is one of the most frequently cited complications in literature. The aim of this study is to propose our experience with abdominoplasty with Scarpa Fascia preservation and compare it with recent scientific literature.

PRESENTATION OF CASE: We present the case of a 55-year-old woman underwent bariatric surgery in 2014, after which she lost 55 kg of weight. We decided to perform an abdominoplasty with transposition of the umbilicus and preservation of the Scarpa Fascia. In fact, this technique seems to have a positive impact on reducing seroma formation, reducing the amount of drained fluids and the drainage time.

DISCUSSION: The saving of the adipose-fascial layer according to different Authors would allow the reduction of the volume of drained fluid, of the time spent by the drains and the average hospital stay.

CONCLUSION: The abdominoplasty with the Scarpa Fascia preservation is a safe, repeatable technique with good aesthetic results. The saving of deep adipose tissue allows to reduce the time and the quantity of drained liquids. In our experience patient undergoing this technique has shorter hospital stays with no complications.

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1. Introduction

Abdominoplasty is one of the most performed operations in Plastic Surgery in the world [1]. Several surgical techniques have been proposed over the years and, especially in the last decade, there has been a remarkable evolution of this procedure [2–3]. Postoperative seroma is one of the most frequently cited complications in literature and in recent years the advantage of preservation of the Scarpa Belt has been increasingly affirmed [4–5]. In fact, the saving of deep adipose tissue, in the infra-umbilical area, would allow a saving of vascular and lymphatic structures with a reduction in seroma formation, a reduction in time and quantity of drainage and a reduction in hospital stay time. Despite the fact that for several years now a reduction of these variables has been affirmed, few jobs have been able to lead to an unambiguous interpretation of the effects of this technique, so that it is still necessary to carry out studies on large samples.

The aim of this study is to propose our experience with this technique and compare it with recent scientific literature. The work has been reported in line with the SCARE criteria [6].

2. Case report

We present the case of a 55-year-old woman underwent bariatric surgery in 2014, after which she lost 55 kg of weight (Fig. 1). The patient did not have associated co-morbidities. Given the significant weight loss, with a stable body weight for about 1 year, the patient showed a common skin laxity, especially represented in the abdominal region. The cutaneous laxity of the abdominal region, with ptosis of the dermo-adipose tissues, classified the patient as a grade 3 according to Matarasso [7], also had a diastasis of the rectus muscles of the abdomen, with indication for surgical intervention. We decide to perform an abdominoplasty with transposition of umbilicus and strengthening of the rectus abdominis muscles by plication of the muscular fascia. Given our experience with patients undergoing bariatric surgery, we decided to perform an abdominoplasty with preservation of the Scarpa Fascia. In fact, this technique seems to have a positive impact on reducing seroma formation, reducing the amount of drained fluids and the drainage time. In our experience, patients undergoing massive weight loss show a greater tendency in the formation of seromas for which it is decided to conduct this procedure.

* Corresponding author at: Department of Plastic and Reconstructive Surgery, CAP 70124, Piazza Giulio Cesare 11, Bari, Italy.

E-mail address: francescociancio01@gmail.com (F. Ciancio).



Fig. 1. Pre-operative photo.

We evaluated the following variables: age, BMI, comorbidity, drainage removal times, total volume of drained fluids, length of hospital stay. The follow-up was 18 months.

3. Surgical technique

In our clinical practice, we perform antibiotic prophylaxis with cefazolin 2 g iv 30 min before surgery. According to the literature [4–5] the abdominal flap was sculpted in two different planes, superficial prefascial (above the Scarpa Fascia) in the infraumbilical region and preaneurotic region in the epigastric portion. The skin incision is made according to the preoperative design [8] (Fig. 2), then the abdominal flap is sculpted with ultrasound scalpels. During this maneuver we prefer a manual traction of the flap taking care to preserve the Scarpa Fascia up to about 1 cm below the umbilical scar as described in the literature. Once this level is reached, dissection is carried out according to a premuscular (preaponeurotic) plane. The dissection up to the xiphoid process is confined to the area between the medial margins of the rectus abdominis muscles in order to preserve the perforating vessels of the upper abdomen. The trabecular ligament of the xiphoid process, in our case has been sectioned so the sliding of the abdominal flap is facilitated. Once the tunnel has been completed, the muscle fascia of the rectum is plicated with its approach in the upper abdominal portions, then a medial portion of the adipofascial tissue is removed and the premuscular plane is exposed (Fig. 3). Reposition of the umbilical scar approximately 2 cm above the projection on the abdominal flap. With the patient in semi-Fowler position the abdominal flap is approached at the suprapubic margin and positioning of 2 suction drains JP (Jackson Pratt). Sutures in 3 layers in latero-medial direction and dressing with steri-strip. The patient

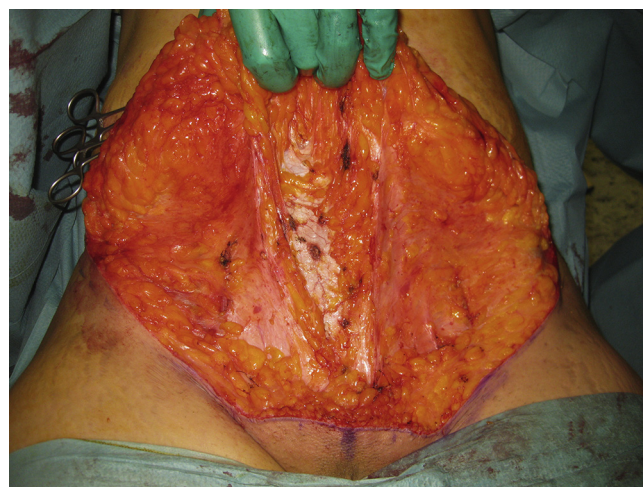


Fig. 2. Intra-operative photo. We can distinguish two different surgical planes: superficial prefascial (above the Scarpa Fascia) in the infraumbilical region and preaneurotic region in the epigastric portion.



Fig. 3. Plication of the rectus of the abdomen. The adipose-fascial tissue excision is noted along the midline of the rectus abdominis.

wore a compressive sheath for 40 days. Drains were removed in second day when the amount drained in 24 h was less than 30 ml.

4. Discussion and conclusion

the abdominoplasty with transposition of the umbilicus is one of the most performed surgical procedures in Plastic Surgery [1–9].

Several surgical strategies have been described in literature to reduce the rate of complications of traditional abdominoplasty: selective dissection, the use of closed suction drains, avoid the use of electrocautery when necessary, bind the piercing vessels, the use of negative pressure, sclerotherapy, the use of fibrin glue and delayed mobilization [10–14]. The seroma represents the complication most present in the literature also coming to rates of 40% [4–5].

Over the last few years the technique with preservation of the Scarpa Fascia has aroused considerable interest in the literature. This technique has been described by Louarn who suggests avoiding the dissection exclusively on the premuscular plane of the rectus of the abdomen but preserving the fascia in the infraumbilical region [15]. The subcutaneous tissue structure of the



Fig. 4. Photographic control after 45 days.

abdominal wall comprises two distinct adipose, superficial and deep layers separated by the Scarpa Fascia [16–17]. In this procedure has been preserved and with it also the deep adipose tissue, with the respective lymphatic vessels, arteries and veins. Probably the saving of deep adipose-fascial tissue is the keystone in reducing the rate of complications related to seroma and lymphatic drainage in tummy tuck with transposition of the umbilicus. The abdominal wall, in fact, has two different areas of lymphatic drainage, divided and defined by a horizontal plane at the level of the umbilical region: the epigastric area drains to the armpits and the hypogastric area drains to the inguinal regions. The incision performed in this technique not interrupt the connections between the deep adipose tissue and the inguinal lymphatic stations.

The saving of the adipose-fascial layer according to different Authors would allow the reduction of the volume of drained fluid, of the time spent by the drains and the average hospital stay [4–5]. In our case we observed a shorter hospital stay time than conventionally abdominoplasty, in fact in clinical practice we prefer to discharge patients without drainage, ie when the volume of liquid drained in 24 h is less than 30 ml alternatively we remove the drainage no later than the tenth day. Given the lower amount of fluids drained in patient undergoing abdominoplasty with Scarpa Fascia savings, we removed the drains about 3 days earlier than classical procedure without preservation of Scarpa Fascia, with shorter hospitalization times. This factor has been one of the elements that has allowed us to reduce the costs related to hospitalization and deserves further economic-health study.

The abdominoplasty with the Scarpa Fascia preservation is a safe, repeatable technique with good aesthetic results (Fig. 4). The saving of deep adipose tissue allows to reduce the time and the quantity of drained liquids. In our experience patient undergoing this technique has shorter hospital stays with no complications. The indication for the use of this technique is in the definition phase but it is absolutely a valid alternative in cases of abdominoplasty with transposition of the umbilicus. It could be interesting to try to identify the patient model that can be applied to this technique.

Conflicts of interest

The authors have no conflicts of interest to disclose

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Ethical approval

To carry out this scientific work, there was no need to resort to the ethics committee. Ethical approval has been exempted from our institution.

Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request

Author contribution

Ciancio Francesco writing
 Paolo Annoscia writing
 Antonio Iannelli Data collection
 Prof Perrotta Rosario Emanuele coordinator
 Prof Giuseppe Giudice coordinator
 Michele De Robertis Surgeon Operator

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