

# Plastic Surgeons' Perspective on Laparoscopic/Endoscopic Diastasis Recti Repair and Intraoperative Ultrasound Assistance in Secondary Cases

Damiano Tambasco, MD\*; Roberta Albanese, MD\*†; Federica Tomaselli, MD\*; Pier Camillo Parodi, MD†

Historically, diastasis recti has been repaired through open procedures, such as traditional abdominoplasty. In recent years, new techniques have been proposed for the treatment of diastasis recti, including various minimally invasive surgical choices. Minimally invasive approaches can be classified as laparoscopic preaponeurotic approaches, robotic approaches, or enhanced-view/extended totally extraperitoneal approaches.<sup>1</sup>

Diastasis recti correction without abdominoplasty can result in unpleasant aesthetic results and major defects in the body profile.<sup>2</sup> In particular, we treat several secondary cases after endoscopic diastasis corrections. Some of the possible consequences are excess skin and subcutaneous tissue above the linea alba and the umbilicus; distortions and lateralization of the navel; redundancy of the skin tissue in the upper abdominal quadrant; and massive fibrosis due to postoperative seromas<sup>3</sup> (Fig. 1).

All of these conditions are particularly apparent in thin patients and can only be corrected with open surgery. Because of this, secondary procedures are necessary, with high rates of scar healing complications and unsatisfactory aesthetic results due to subcutaneous fibrosis and atrophy of subcutaneous fat. In our experience, we believe that these complex cases with the risk of surgical failure should be carefully approached, considering all possible aspects.

We perform an abdominoplasty according to the Saldanha technique.<sup>4</sup> The dissection raised on the recti's fascia is a narrow tunnel made with the intent to preserve the perforating vascularization of the superior epigastric artery. This technique has proven to have a low rate of complications and excellent reshaping ability.<sup>4</sup> Moreover, in these patients, we find it helpful to make an intraoperative ultrasonography (i-US).

We use real-time i-US imaging for correct identification of subcutaneous fibrosis and atrophy of subcutaneous fat using a clinical US scanner (Siemens Redwood; Siemens Acuson, Siemens Healthcare, Mountain View, Calif.) with

an 18-MHz linear probe. The advantage of i-US is that it achieves a uniform result by correcting the different thicknesses of the previous surgery.

Moreover, the i-US allows us to avoid the “dangerous areas,” particularly those thinned by previous surgery and with risky vascular changes. In these regions, fat grafting to improve the thickness and resolve the fibrosis damage was valued.

In our opinion, laparoscopic or robotic corrections in conjunction with lipoabdominoplasty should be carefully evaluated. The combination of these procedures leads to very high surgical times and costs, with reduced benefits.<sup>1</sup>

In our experience, direct diastasis recti repair during lipoabdominoplasty is considered fast, safe, and effective. We therefore believe that patients (particularly those with poor skin quality and high aesthetic expectations) must be made aware of these potential issues before undergoing laparoscopic or endoscopic approaches so that they can make more informed choices when deciding between traditional procedures (abdominoplasty or mini abdominoplasty approaches) and minimally invasive solutions.<sup>5</sup> Although these are preliminary data, we consider our intuition useful for the management of such complex and unpredictable cases.

Roberta Albanese, MD

Plastic Surgery Unit

Santa Maria Misericordia Hospital

Piazzale Santa Maria della Misericordia, 15

33100 Udine

Rome, Italy

E-mail: [albaneseroberta16@gmail.com](mailto:albaneseroberta16@gmail.com)

## DISCLOSURES

Dr. Tambasco is a consultant to Attiva, Solta Medical, and Atyx Medical. The other authors have no financial interest to declare.

## REFERENCES

1. Mandujano CC, Lima DL, Xia J, et al. An algorithmic approach for the MIS repair of ventral midline hernias associated with diastasis of the rectus abdominis muscle. *J Abdom Wall Surg.* 2022;1:10864.
2. Forester E, Sadiq A. Comparative analysis of the efficacy and functionality of abdominoplasty versus minimally invasive techniques in the surgical treatment of diastasis rectus abdominis in postpartum women. *Surg Endosc.* 2023;37:9052–9061.
3. ElHawary H, Chartier C, Alam P, et al. Open versus laparoscopic surgical management of rectus diastasis: systematic review and pooled analysis of complications and recurrence rates. *World J Surg.* 2022;46:1878–1885.
4. Saldanha O, Ordenes AI, Goyeneche C, et al. Lipoabdominoplasty with anatomical definition. *Plast Reconstr Surg.* 2020;146:766–777.
5. Tambasco D, D'Ettore M, Gentileschi S, et al. Postabdominoplasty wound dehiscence in bariatric patients: biliopancreatic diversion versus gastric bypass: a preliminary study. *Ann Plast Surg.* 2015;75:588–590.

From the \*Plastic Surgery Unit, San Carlo di Nancy Hospital, Rome, Italy; and †Clinic of Plastic and Reconstructive Surgery, Academic Hospital of Udine, Department of Medical Area, University of Udine, Udine, Italy.

Received for publication March 8, 2024; accepted May 9, 2024.

Copyright © 2024 The Authors. Published by Wolters Kluwer Health, Inc. on behalf of The American Society of Plastic Surgeons. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

*Plast Reconstr Surg Glob Open* 2024; 12:e5930; doi: 10.1097/GOX.0000000000005930; Published online 20 June 2024.



**Fig. 1.** A 39-year-old patient undergoing secondary abdominal liposuction. A, Preoperative photograph. The patient underwent laparoscopic preperitoneal approaches 2 years ago. The skin is irregular, there are retracting scars, and the abdominal flap is different in thickness. B, Postoperative photograph after 1 year after correction through abdominoplasty, with complete resolution of abdominal flap irregularities. Despite previous scars, we performed a complete abdominal definition.