



# Lipoabdominoplasty Without Undermining

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**Background:** The classic abdominoplasty still provides the best aesthetic results, despite many advances in abdominoplasty techniques. However, this procedure is associated with a relatively high incidence of complications.

**Objective:** A new technique is described that combines lipoplasty with traditional abdominoplasty without undermining of the abdominal flap.

**Methods:** Lipoplasty proceeds from the region above the umbilicus to the flanks and the region below the umbilicus. The skin below the umbilical scar is resected as in classical abdominoplasty, but a thinner fatty layer with its connective tissue, lymphatic vessels, and blood vessels is preserved. Complementary lipoplasty is performed if necessary to remove excess fat.

**Results:** The procedure results in an improved body shape, better accommodation of the abdominal flap, and a more youthful appearance of the abdomen with less scarring and no incidence of “dog ears” or major complications.

**Conclusions:** Lipoabdominoplasty without undermining enhances aesthetic results with fewer complications than traditional abdominal aesthetic surgery. *Aesthetic Surg J* 2001;21:518-526.)

The introduction of lipoplasty into the surgical armamentarium by Illouz<sup>1</sup> has brought about many changes in abdominoplasty procedures. Great progress in the surgical approach to the abdominal region has been made. Abdominoplasty has been subdivided into lipoplasty, with minor skin removal in the region above the pubis, and the traditional abdominoplastic surgery, with complementary dorsal and flank lipoplasty.<sup>2</sup>

In 1995, Hakme<sup>3</sup> described a mini-abdominoplasty that combined lipoplasty with removal of excessive skin in the region above the pubis for selected patients. However, since then, few modifications in the aesthetic treatment of the abdomen have been introduced. Recently, Avelar<sup>4</sup> reported a procedure in which the skin of the region above the pubis is partially removed, as in Hakme’s technique, but without undermining the lower abdominal flap or removing the fatty layer and connective tissue, thus preserving the umbilical scar.

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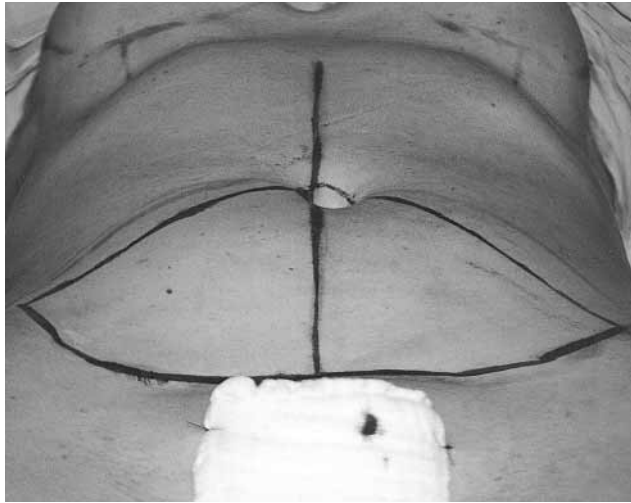
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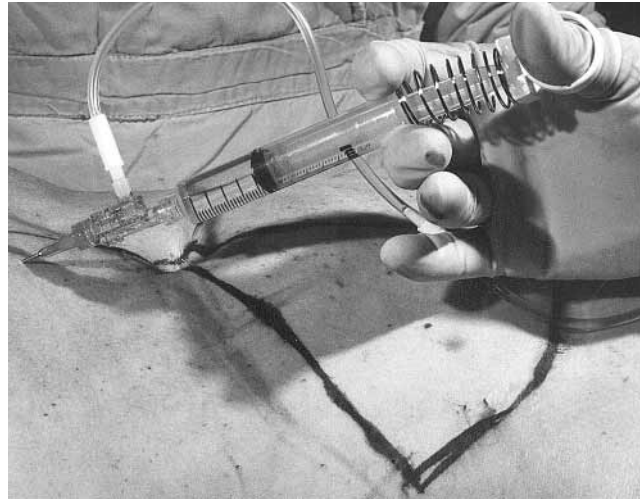
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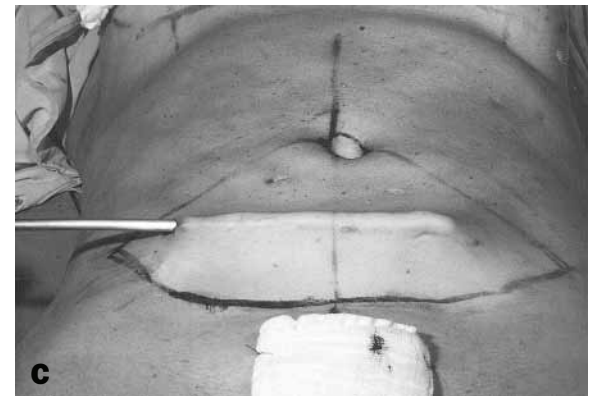
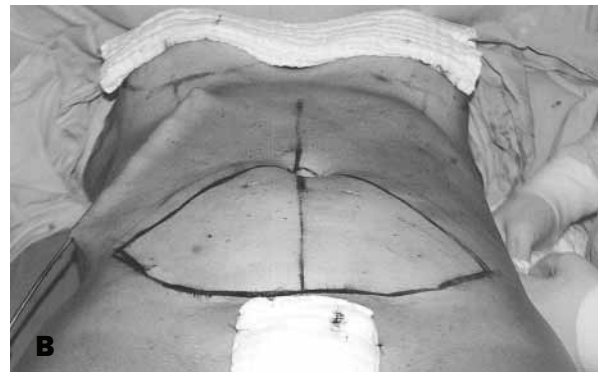
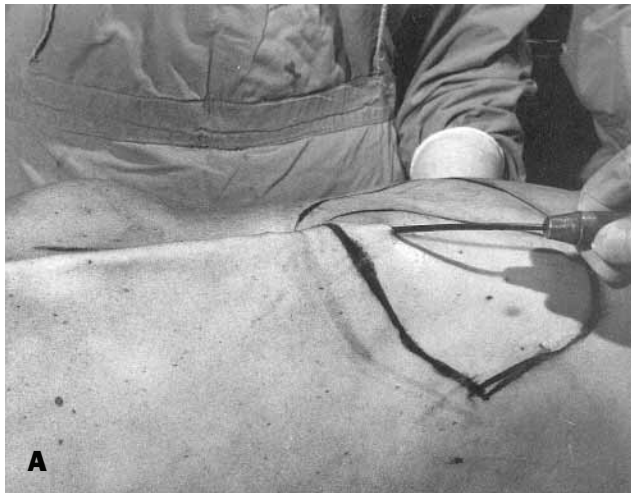
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**Figure 1.** Preoperative marking.



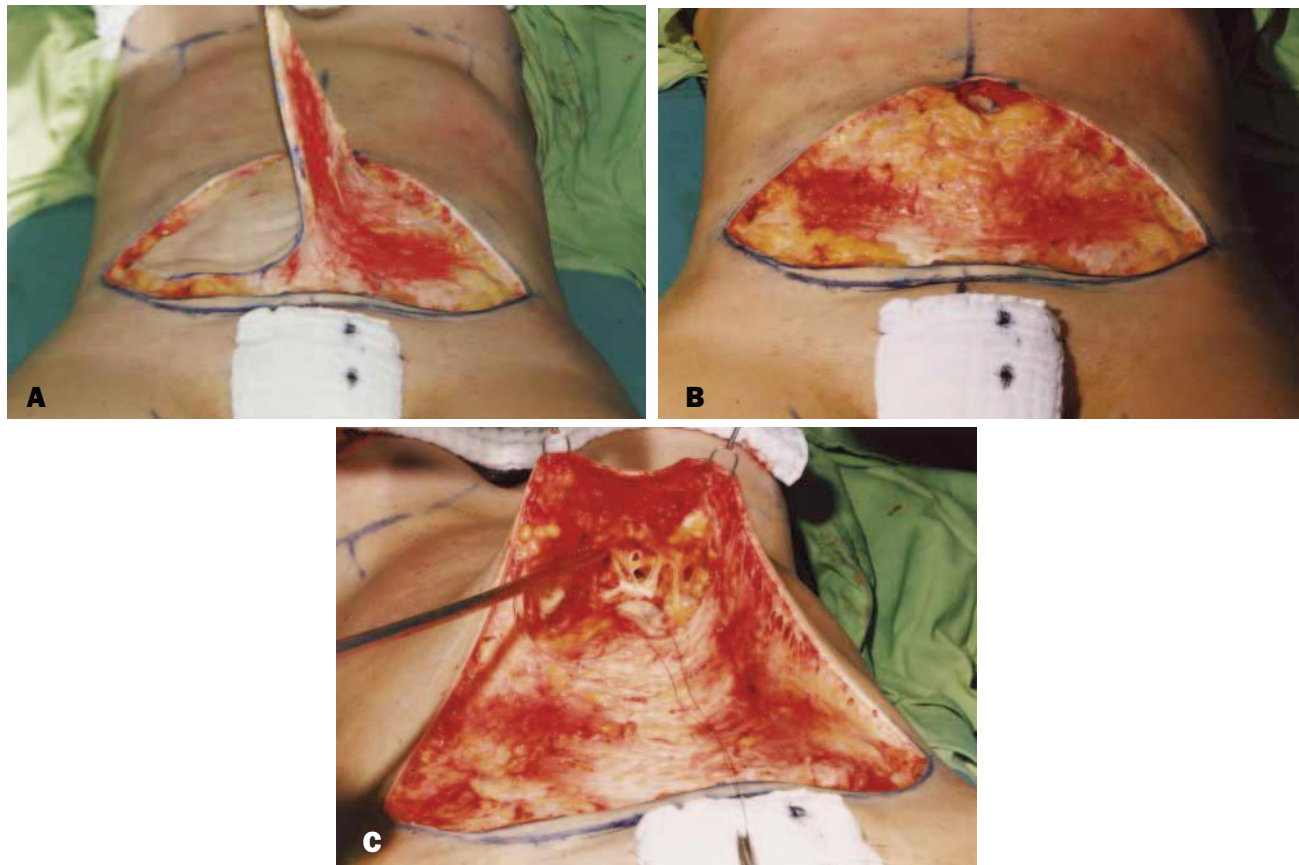
**Figure 2.** Infiltration of the abdominal region.



**Figure 3.** Lipoplasty proceeds from the region above the umbilicus (A) to the flanks (B) and the region below the umbilicus (C).

During this evolution, great progress has been made with superficial lipoplasty, as described by de Souza Pinto.<sup>5</sup> This treatment promotes better skin retraction and is suggested for both superficial and deep fat layers.

In spite of such progress in the treatment of the abdominal region, the classic abdominoplasty as described by Pitanguy<sup>6</sup> and Rebello and Franco<sup>7</sup> has remained the surgical procedure that achieves the best



**Figure 4. A, B,** The skin below the umbilical scar is isolated and resected. **C,** A thin fatty layer with its connective tissue, lymphatic arteries, and veins is preserved.

aesthetic results. However, this procedure is associated with complications<sup>8</sup> such as hematoma, seroma, skin slough, and skin necrosis. The wide undermining of the abdominal flap is undoubtedly the major cause of the high rate of seroma incidence, skin slough, and skin necrosis, especially in persons who smoke. Moreover, the classic abdominoplasty may require further postoperative reinterventions to correct scars and “dog ears.”

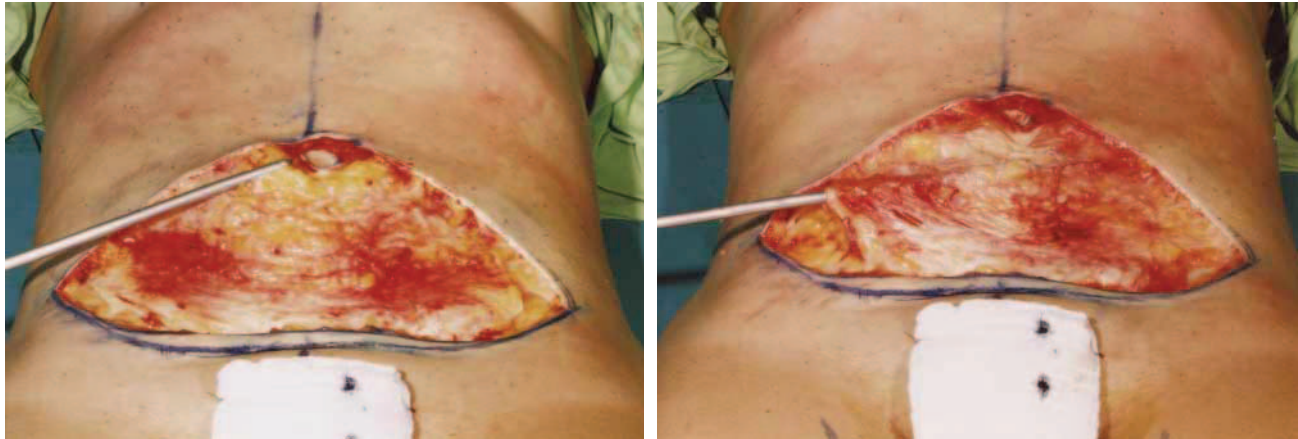
Some surgeons perform liposuction and abdominoplasty at the same time, whereas most perform them separately, with a 6-month interval between procedures to avoid involvement of the blood vessels.<sup>9</sup>

In 1992, Illouz<sup>10</sup> published a technique of abdominoplasty without undermining that was used in obese patients with pendulous abdomens or for supraumbilical abdominoplasties, in which an en bloc resection was performed about the umbilical scar and followed by

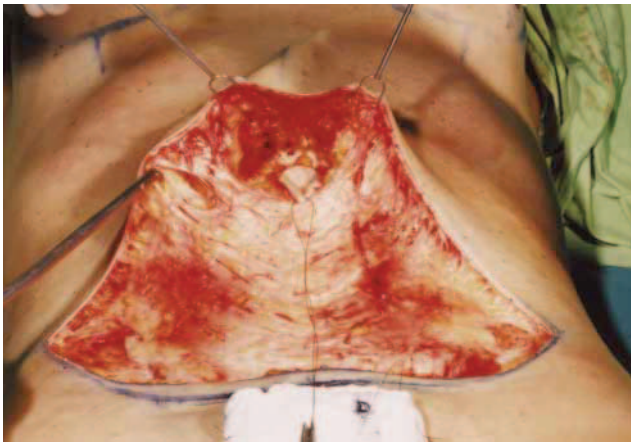
superior lipoplasty and neo-umbilicoplasty. A limited plication of abdominal recti muscles could also be performed.

In this article, we present a new surgical approach to the aesthetic treatment of the abdominal region, which uses the principles of liposuction and the traditional abdominoplasty without undermining the flap. The transposing of the skin from above the umbilicus to the pubic region is performed without undulations because of the tunnels produced by the cannulas in lipoplasty. In this way, blood vessels are preserved and vascular involvement of the abdominal flap is diminished.

The lipoabdominoplasty technique that we perform is applicable to a larger selection of patients than the Illouz<sup>10</sup> procedure, since we now use it in all our abdominoplasty patients. The resection involves all the infraumbilical skin, while preserving the lymphatic vessels and connective tissues; it also involves aspirating fat.



**Figure 5.** Complementary lipoplasty is performed to remove the fat excess.



**Figure 6.** Two hooks are used to raise the flap to complete lipoplasty of the excess fat and achieve a flap with uniform thickness.

Our treatment of the umbilical scar also differs from that described by Illouz in that we perform umbilicization with use of a star-shaped onphaloplasty technique<sup>11</sup>; in case of diastasis recti, the plication may be done in the midline from the pubis to the xiphoid.

## Methods

### Patients

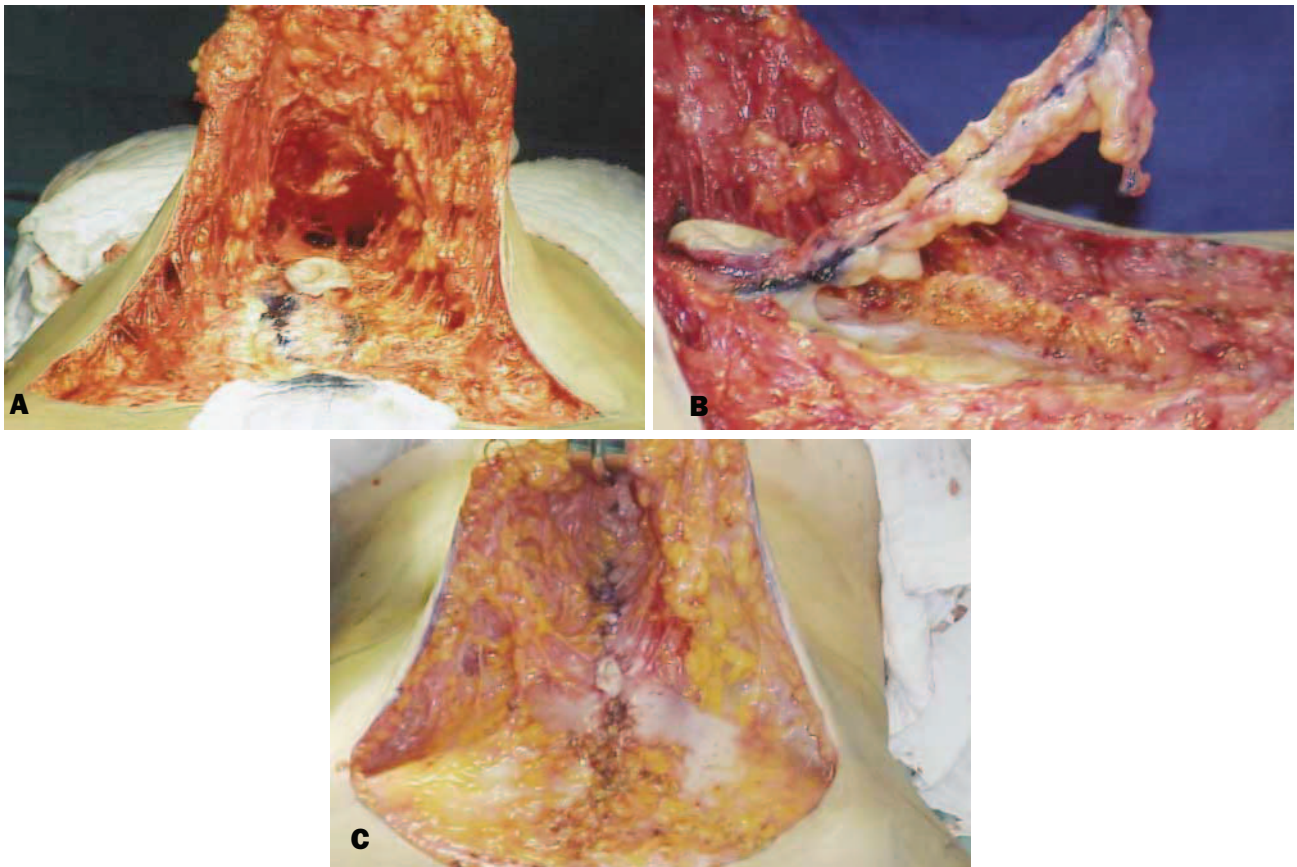
Between January 2000 and February 2001, 28 female patients between the ages of 28 and 52 years underwent lipoabdominoplasty without undermining. Patients indicated for traditional abdominoplasty were selected for this procedure. Those with a high degree of diastasis of the abdominal rectal muscles were excluded.

### Technique

After preoperative marking (Figure 1), the abdominal region was infiltrated using saline solution with adrenaline at a concentration 1:1,000,000 (Figure 2). Lipoplasty began at the region above the umbilicus (Figure 3, A) and continued to the flanks (Figure 3, B), including the region below the umbilicus (Figure 3, C). After lipoplasty was performed, the umbilical scar was isolated, and only the skin below this point was removed, as in the classical abdominoplasty (Figures 4, A and B). However, a thin fatty layer with its connective tissue, lymphatic vessels, arteries, and veins was preserved (Figure 4, C). If necessary, complementary lipoplasty was performed in this area to remove the excess fat (Figure 5). At this time, 2 hooks were used to raise the flap to complete lipoplasty of the excess fat and to achieve a flap with uniform thickness (Figure 6). For better repositioning of the umbilicus, the fat in the region above this area was completely removed.

In patients with an indication for rectus abdominis muscle plication, the subdermal tissue was undermined at the median line (Figure 7, A), which was extended to 2 cm laterally at each side, from the pubis to the xiphoid process, exposing the aponeurosis at the abdominal midline without impairing abdominal flap circulation. Adipose tissue was removed from the site of plication at the lower abdomen (Figure 7, B), and a conventional plication was performed (Figure 7, C).

A star-shaped onphaloplasty was performed as in classic abdominoplasty. This technique consisted of making a cross-shaped marking 10 cm from the pubis,



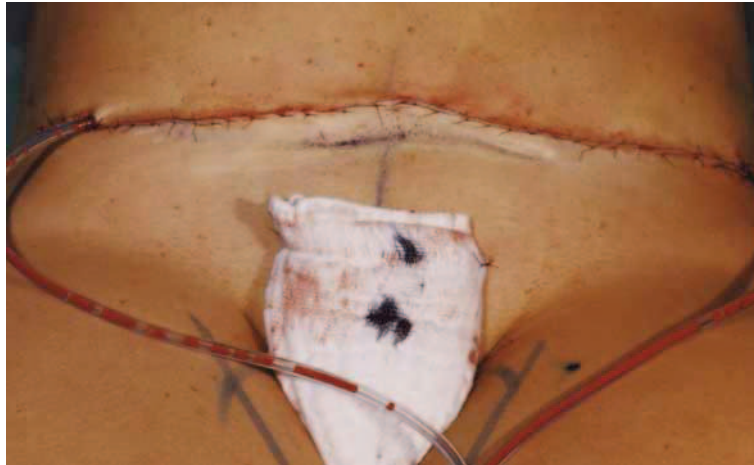
**Figure 7.** Rectus abdominis muscle plication. **A**, The subdermal tissue is undermined at the median line. **B**, Adipose tissue is removed from the site of plication. **C**, The plication is performed at the median line.



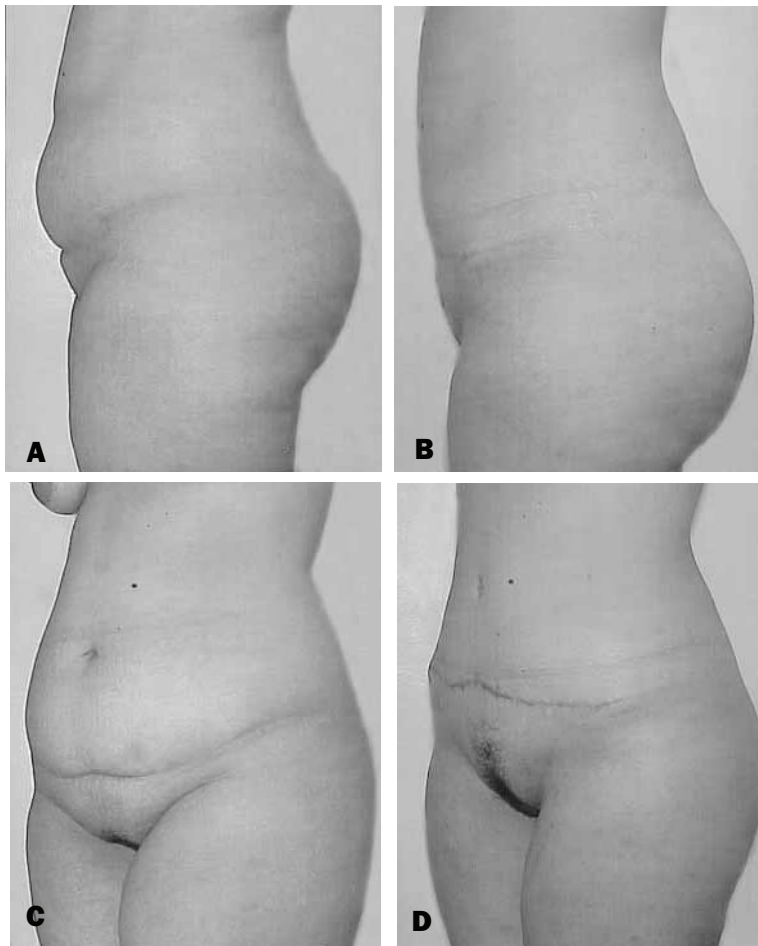
**Figure 8.** Suturing of the subdermis.

followed by the incision. The umbilicus was then exteriorized and grasped at the cardinal points, and small triangle resections were performed between

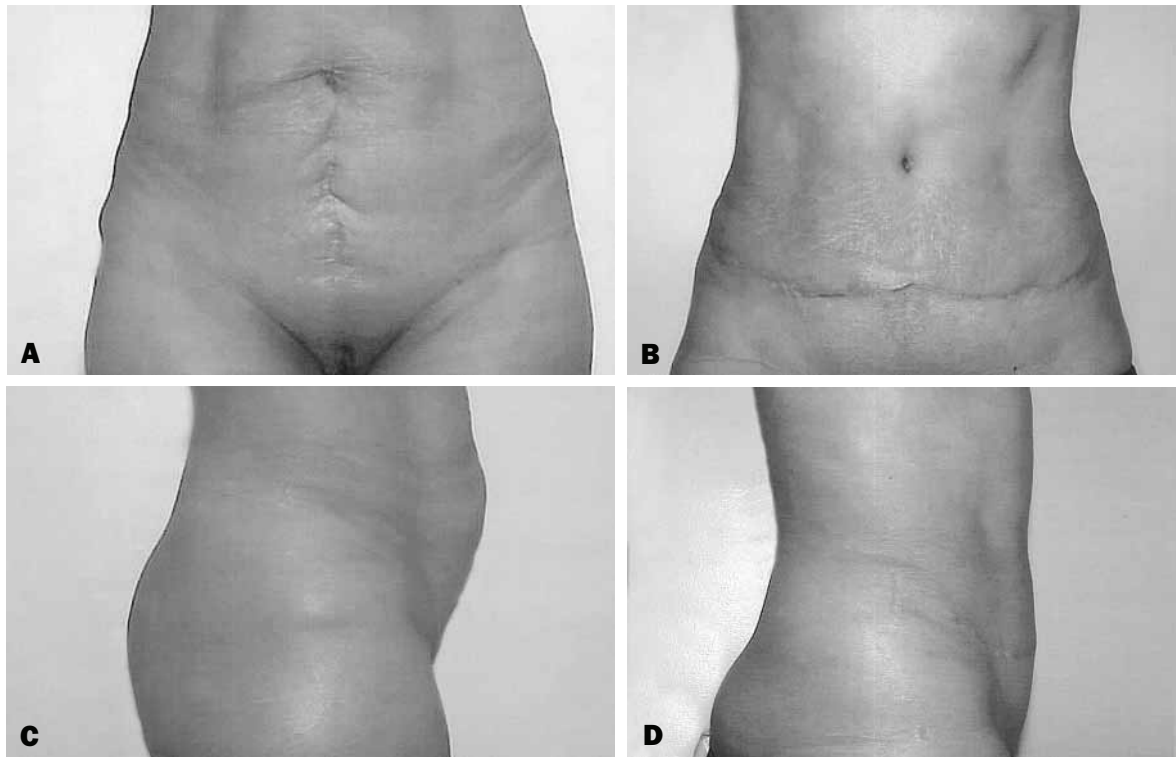
those points to fit the umbilicus into the cross-shaped incision. It was anchored with subdermal 5-0 nylon stitches.



**Figure 9.** Vacuum drainage.



**Figure 10.** A, C, Preoperative views of a 39-year-old woman. B, D, Postoperative views 1 year after lipoabdominoplasty.



**Figure 11.** A, C, Preoperative views of a 39-year-old woman. B, D, Postoperative views 6 months after lipoabdominoplasty.

After traction of the non-undermined flap was performed, the 2 layers of the abdominoplasty were closed with nonabsorbable sutures (Figure 8). In all our patients, vacuum drains were placed; they were removed 5 days after surgery (Figure 9).

## Results

The results of the 28 patients treated with this technique were considered good by both physicians and patients. The superior and inferior borders were effectively accommodated because of their similar thickness of fatty tissue resulting from lipoplasty. Consequently, there were no cases of “dog ears,” and the final scar was shorter and of better aesthetic quality compared with the scar from classic abdominoplasty (Figure 10). We also observed an improvement in body shape and contour line, resulting in a more youthful appearance of the abdomen, which avoided the flat aspect characteristic of classic abdominoplasty (Figures 11 and 12).

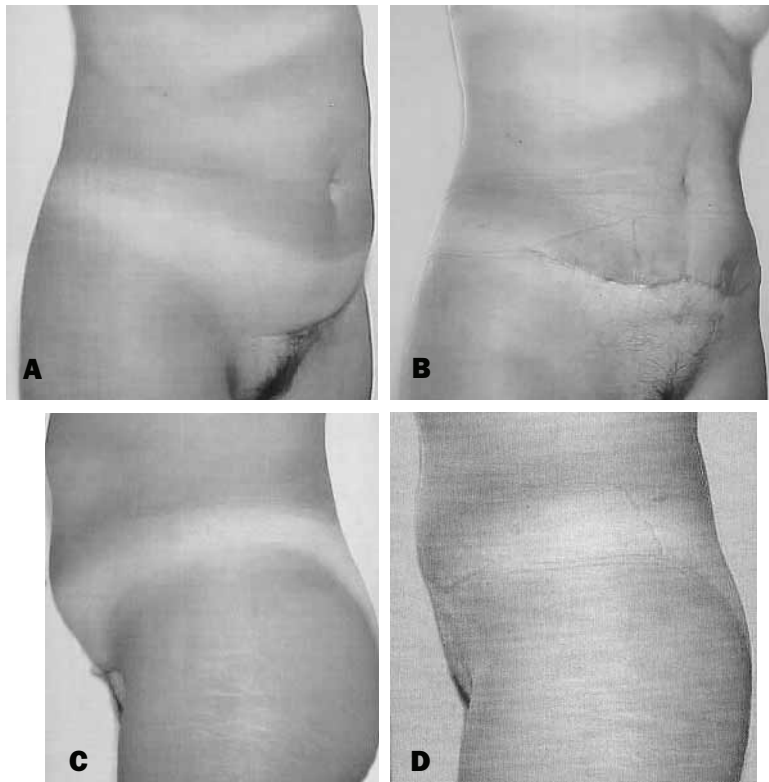
We observed the presence of a seroma in 1 patient on

the 12th day after surgery, which was treated successfully through aspiration with a syringe. There were no cases of hematoma, rupturing of the suture, skin slough, or infection.

## Discussion

Classical abdominal surgery is associated with a relatively high complication rate because of the large-scale undermining that is required. It also involves the rupture of the lymphatic and perforant blood supply vessels to the abdominal flap.

Fundamental to the technique of lipoabdominoplasty without undermining is the absence of any undermining of the abdominal flap. This preserves perforant abdominal supply vessels and lymphatic vessels and thus reduces the incidence of complications such as seroma, hematomas, skin slough, and skin necrosis that are caused by large-scale undermining. This technique promotes the treatment of lipodystrophies in all regions of the abdomen. It results in a harmonious



**Figure 12.** A, C, Preoperative views of a 39-year-old woman. B, D, Postoperative views 3 months after lipoabdominoplasty.

abdominal profile because it enables ample traction of the superior abdominal regions (Figures 6 to 9).

### Conclusion

Lipoabdominoplasty without undermining promotes a more youthful abdominal silhouette, better accommodation between the abdominal flap and the region above the pubis, and shorter and more aesthetic scars. We believe that it is a safer way to treat the abdominal region than classical abdominoplasty and that it produces more harmonious results with fewer complications. ■

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### Erratum

The author of "Alloplastic Lip Augmentation" (Volume 21, Number 5, p. 445), Richard D. Anderson, MD practices in Scottsdale, AZ.