

Neumbilicoplasty Through a Purse-String Suture of Three Defatted Flaps

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Abstract. A wide range of techniques have been described to reconstruct a nonexistent umbilicus; nevertheless, a perfect result is difficult to obtain. We provide another alternative to reconstruct the umbilicus using a purse-string suture of three defatted flaps. Good results were obtained by creating a rounded umbilicus with a sufficient depth, which will have long-term effects. Widening, stenosis, or external scars did not occur. The purse-string suture as a complementary technique of neumbilicoplasty allows us to obtain and keep the shape of a cylinder which is the umbilicus and avoid its widening. It can also be done in an abdomen with thick or thin adipose panniculus, thus helping to improve and influence the final result.

Key words: Neumbilicoplasty—Umbilicoplasty—Umbilicus—Abdominoplasty

The umbilicus is the oldest scar we all have. It is considered a sign of beauty, being an erotic symbol in certain periods of history. There have been very different technical variations in umbilical transplants concerning lipectomies.

A neumbilicoplasty can also be suitable, among other situations:

- When the umbilicus is absent, as, for example, when patients have a history of repeated laparotomies.
- When in a lipectomy we prefer to resect the umbilicus instead of transposing it. It is, mainly, a functional indication in the obese, those with an important umbilical hernia or a diastasis of the rectum.

A wide range of techniques have been described to re-

construct a nonexistent umbilicus; nevertheless, a perfect result is difficult to obtain. We provide another alternative to reconstruct the umbilicus using a purse-string suture of three defatted flaps. We will now describe the technique and the results we have obtained.

Materials and Methods

Five neumbilicoplasties have been performed. In four cases, these were carried out during an abdominoplasty in patients without umbilicus secondary to abdominal surgery. The fifth case was a patient who suffered necrosis of the umbilicus after two abdominoplasties.

The technique of neumbilicoplasty that we employed is as follows: Once the location of the new umbilicus has been chosen, we mark an ellipse of approximately 2×2.5 cm, which comprises all the depth of the future umbilicus. The area of the circumference is divided into three triangles corresponding to three externally based flaps, that have no fat. Before anchoring the vertex of the three flaps to the aponeurotic plane, the perimeter of the future umbilicus is surrounded with a purse-string suture of reabsorbable material which is tightened after having anchored the three flaps to the aponeurotic plane. With the three flaps we construct a cylinder, that is, the new umbilicus (Fig. 1). We place a tied dressing and maintained it for a week.

Results

In the five cases, we obtained good results creating a rounded umbilicus with a sufficient depth, which had long-term effects. Widening, stenosis, or external scars did not occur (Fig. 2).

The purse-string suture allows us to 1) obtain and keep the shape of a cylinder which is the umbilicus, and 2) avoid the widening of the new umbilicus.

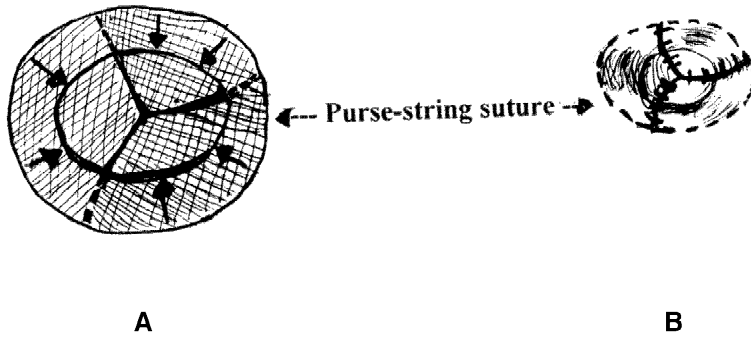


Fig. 1. (A) Preoperative marking. The lined area is undermined. (B) Postoperative result.

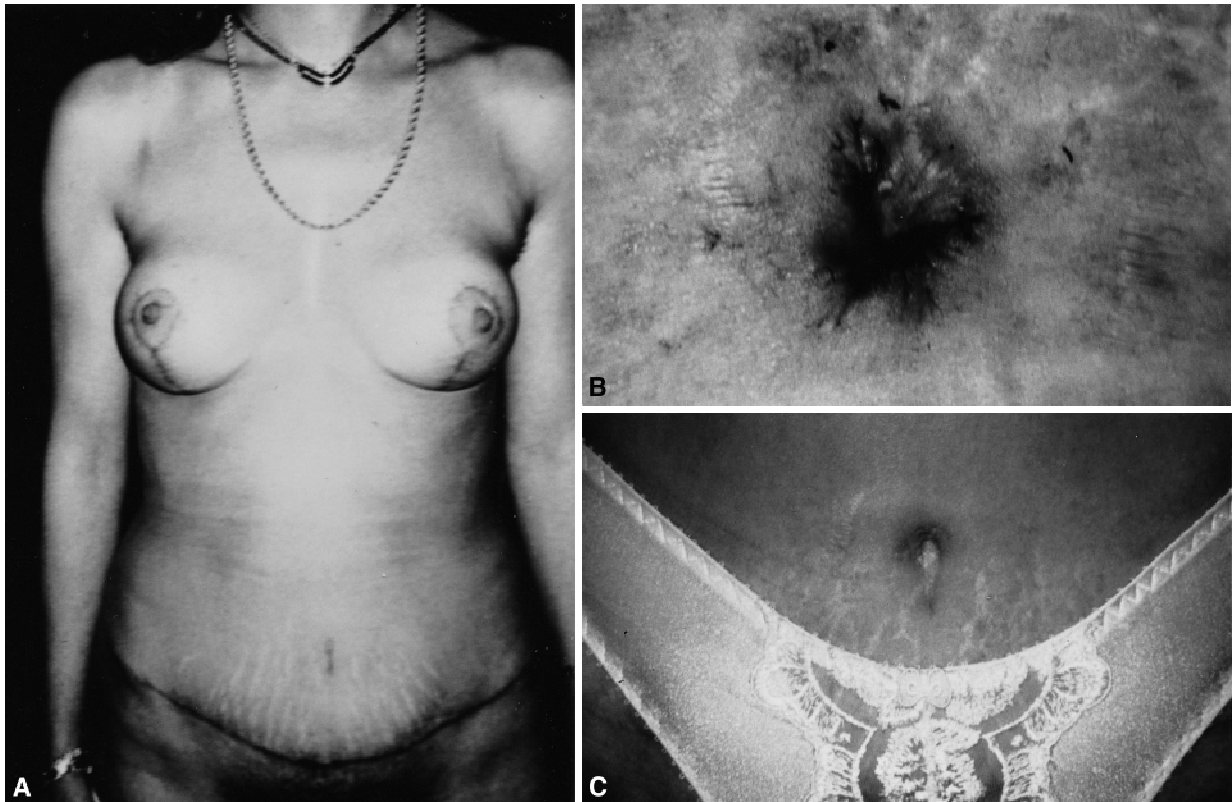


Fig. 2. (A) Preoperative view. (B) 1 month later. (C) 1 year later.

Discussion

The umbilicoplasty has been performed following various procedures aiming for the same result: that the umbilical scar is deep under the surrounding skin and that it adheres to the wall of the abdomen. We try to maintain the umbilical pedicle which is used at the end of the abdominoplasty to be relocated in the final position; however, in some cases it is discarded, totally absent or distorted, thus needing a neoumbilicoplasty.

Different methods of umbilical reconstructive surgery have been described. One of the simplest was put forward by Sabatier et al. in 1978 [1]. It consists of placing, in the chosen location for the new umbilicus, two flaps facing each other in the shape of a "U." The deep side of these flaps will have no fat in the part of the dermis

that will be the bottom. The flaps will then be sutured together as well as to the aponeurosis, forming a depression, joining the underlying aponeurotic wall, thus simulating the anatomical conditions of a natural umbilicus.

Fournier and Otteni [2] proposes an even simpler technique, consisting of a transversal maple-leaf incision with an upper concavity perfectly aligned over the medium line of approximately 3 cm. Then we must carefully remove the fat from the contour of the incision, especially the upper side, so as to create a medium supraumbilical depression. The cutaneous lips of the incision are deeply stitched up to the aponeurotic plane; the invagination of the new umbilicus is maintained with a tied dressing for a few days.

Ribeiro et al. [3] described the construction of an umbilicus with either a quadrangular or a star shape, indi-

cated for typical abdominoplasties, and of trying to avoid widening or stenosis of the umbilicus in the postoperative period.

The technique proposed by Baroudi and Carvalho [4] to reconstruct the umbilicus during an abdominal lipectomy (when the umbilicus is absent or we recommend to remove it due to certain reasons: deformed scars, important umbilical hernia, skin too thin to guarantee a successful reconstruction. . .) has two variations: using a skin graft or allowing the formation of a scar after suturing the skin of the abdomen to the fascia.

Matsuo et al. [5] described a technique for reconstruction of the umbilicus using a conchal cartilage composite graft.

Sugawara et al. [6] described a technique using only one triangular flap. Techniques employing the same idea and similar procedures with three and four flaps (quadrupleplasty in V shape with central vertex) have been described. Jamra [7] has published the reconstruction of the umbilicus by a double V-Y procedure.

Lacerda et al. [8] uses four dermal flaps that are deepithelized to make a cylinder which is the umbilicus. He recommends this technique only for patients with scarce adipose panniculus.

In 1995, Marconi [9] described the reconstruction of the umbilicus with an island flap without fat, keeping the aponeurotic perforators, which are sutured in purse-string to a circular cutaneous defect.

The purse-string suture, which we have also used with three externally based triangular flaps without fat, is regarded by us as a detail that improves the final result of neoumbilicoplasties, keeping the rounded shape of the umbilicus. It can be used in an abdomen with thick or thin adipose panniculus.

Conclusion

The purse-string suture as a complementary technique of neoumbilicoplasty allows us to obtain and maintain the shape of a cylinder, which is the umbilicus, and prevent its widening. It can also be performed in an abdomen with thick or thin adipose panniculus, thus helping to improve and influence final results.

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