Contouring the Epigastrium

There are many effective techniques for contouring the epigastrium. The best technique in each particular case is based on careful evaluation of the patient’s epigastric skin and subcutaneous fat, abdominal wall support, umbilical position, and consideration of whether there has been a prior surgery in the abdominal area. (Aesthetic Surg J 2005;25:506-509.)

The epigastric region, located between the xiphoid and umbilicus, is a challenging area for body contouring surgery. Aesthetic surgeons can consistently improve the appearance of the lower abdominal wall with abdominoplasty and/or lipoplasty, but the upper abdomen presents a more complex problem. The upper abdominal deformity must be defined and corrected, and the operative management must result in an acceptable scar.

Epigastric Contour Deformities

The various aesthetic components that contribute to the ultimate contour of the epigastrium include the skin, subcutaneous fat, abdominal wall support, and umbilicus. Each epigastric component is influenced by different factors. Skin may be an important consideration if there is extreme skin redundancy, commonly found in patients with massive weight loss and also in patients who have undergone abdominal lipoplasty without skin reduction (Figure 1, A and B). Subcutaneous fat may also contribute to fullness in the epigastrium, particularly in younger patients who are above average in weight; patients with abdominal epigastric lipodystrophy who are otherwise fit; or patients with subcutaneous fat that could not be addressed at the time of abdominoplasty because of potential healing problems (Figure 1, C). Lax abdominal wall support is also seen in patients with a history of weight changes, hernias, previous abdominal surgeries, and pregnancy (Figure 1, D). Abdominal laxity may also be seen in patients who have undergone abdominoplasty procedures with inadequate upper abdominal plication. Finally, the umbilicus can contribute to an unaesthetic epigastrium if it is located too low or if there is a hernia. The causes of epigastric contour deformities are not mutually exclusive, and aesthetic components may be affected singly or in any combination.

Techniques

Effective techniques for contouring the epigastrium include lipoplasty, abdominoplasty, reverse abdominoplasty, and direct midline vertical excision.

- Lipoplasty, in an appropriate patient, is an excellent procedure for recontouring the upper abdomen while leaving imperceptible scars. The ideal candidate for lipoplasty has fat deposition in the abdomen but is otherwise fit and has satisfactory abdominal support. When you examine the patient and palpate the abdomen, the ideal candidate will have a thick subcutaneous fat layer. The incision for the lipoplasty cannula may be hidden in the upper umbilical fold. Patients who are left with a thick subcutaneous layer after undergoing abdominoplasty are also good candidates for a second-stage lipoplasty procedure. In these patients, lipoplasty could have created a risk for wound healing had it been performed during the first stage abdominoplasty. Lipoplasty must be avoided if there are possible hernias.

- In terms of contouring the upper abdomen, abdominoplasty may be considered the “workhorse.” Using a high lateral tension technique like the technique espoused by Lockwood,1 a midline plication from xiphoid to pubis flattens the abdomen and improves the waistline. The upper limits of the plication must reach the xiphoid to yield optimal improvement. If not, the untreated fullness of the epigastrium will be exaggerated by a flat lower abdomen. That is why a “mini-abdominoplasty,”...
Contouring the Epigastrium

Figure 1. Examples of patients requiring different approaches to epigastric contouring. 

A, This 38-year-old woman had massive weight loss after undergoing gastric bypass surgery. She has focal deposits of skin and fat above the level of the umbilicus. These deposits may smooth out with an abdominoplasty procedure using subxiphoid undermining; however, she must be prepared for the possibility of a second-stage procedure with direct excision or reverse abdominoplasty. 

B, After undergoing abdominal lipectomy, this 33-year-old man is dissatisfied with his epigastric skin redundancy, which is particularly apparent when he sits. A traditional abdominoplasty is the recommended treatment in this case. 

C, After undergoing abdominoplasty, this 49-year-old woman was left with significant residual subcutaneous fat, requiring a second-stage aggressive lipectomy of the entire abdomen. 

D, This 35-year-old woman with an underlying hernia had massive weight loss after undergoing open gastric bypass surgery. She may require a fleur-de-lis incision to address the hernia adequately, while also undergoing some midline skin tightening.

Figure 2. 

A, Preoperative view of a 51-year-old woman who has significant skin and fat pockets above the level of the umbilicus after massive weight loss. 

B, Markings of upper crescentic excisions with scar designated to fall into inframammary fold. The superficial fascial system is approximated to the ribs using a permanent suture. This procedure was performed in combination with a mastopexy. 

C, Immediate postoperative result demonstrates upper abdominal tightening and scars hidden under the breast fold. She had catheters placed to allow infusion of bupivacaine along the incisions.
with correction limited to the lower abdomen, is satisfactory only in select patients who lack upper abdominal fullness. Superficial lipoplasty in the upper midline enhances the linea alba depression and delineation between rectus muscles. Raising the umbilicus a bit higher than its natural position also pulls in the epigastrium; conversely, low placement tricks the eye into seeing a fuller upper abdomen.2

• Reverse abdominoplasty is another procedure to consider in patients in whom upper abdominal skin redundancy is too distant from the lower abdominal incision to be safely addressed. I use this procedure for second-stage abdominal contouring in patients who did not achieve complete success with standard abdominoplasty, particularly in patients with massive weight loss. In reverse abdominoplasty, I perform excision as crescents in the upper abdomen, placing the scars in the inframammary fold. I then suspend the superficial fascial system to the rib periosteum, which protects against inferior migration of the scar and deformation of the inframammary fold (Figure 2). This procedure results in significant postoperative pain, for which I recommend using the new bupivacaine pain pumps, now available in two-tailed catheter systems.

• Another option for achieving an improved abdominal contour is to use a direct, midline vertical excision. This is frequently performed in combination with traditional abdominoplasty, such as the fleur-de-lis approach, or as a second-stage procedure after traditional abdominoplasty.3 The direct midline vertical excision is acceptable if the patient already has a midline scar, and is particularly appropriate if the patient has an incisional hernia that needs to be repaired (Figure 3). Otherwise, this technique would create a perceptible scar that is visible in swim wear,
which may not be acceptable. I have increasingly used the direct midline approach in patients with an existing scar from open gastric bypass surgery to assure complete upper abdominal wall plication.

**Conclusion**

There is a range of techniques available for management of the epigastrium. Choice of technique should be determined by the cause of the patient’s deformity and whether or not previous surgery has been done. In some patients it is necessary to perform surgery in more than one stage to avoid a complicated recovery, particularly if both subcutaneous fat and abdominal support need to be addressed. With any procedure, a preoperative consultation that prepares the patient for a realistic outcome will help to produce a satisfied patient.

**References**


Reprint requests: Michele A. Shermak, MD, Johns Hopkins Bayview Medical Center Division of Plastic Surgery, 4940 Eastern Avenue, Suite A518, Baltimore, MD 21224.

Copyright © 2005 by The American Society for Aesthetic Plastic Surgery, Inc. 1090-820X/$30.00
doi:10.1016/j.asj.2005.07.003