Breast Augmentation and Abdominoplasty: Postoperative Management With Pain Pumps

Using pain pumps, the author has been successful in reducing postoperative pain after breast augmentation and abdominoplasty. Further, patients ambulate sooner, which reduces the risk of deep vein thrombosis, and more fully expand their lungs, which averts a compromise in pulmonary function. (Aesthetic Surg J 2005;25:69-71.)

Significant postoperative pain is frequently associated with submuscular placement of breast implants as well as plication of the rectus fascia, an integral step in performing an abdominoplasty. Introduction of an anesthetic agent has been found to reduce postoperative pain in both of these procedures: (1) irrigation with one quarter percent bupivacaine HCL and epinephrine in the submuscular pocket before closure and (2) infiltration of the same anesthetic agent directly into the rectus fascia after plication. Because the use of local intraoperative anesthetics is so effective in these procedures, it makes sense that placing a device to provide a continuous infusion of a local anesthetic over several days would have similar benefits.

For the past 2 years, the use of “pain pumps” has been an important part of my postoperative management of patients undergoing breast augmentation and abdominoplasty procedures. Devices are available that reliably deliver a continuous infusion of a local anesthetic agent over 3 to 4 days. A recently released device provides the patient with the option of having a bolus of a local anesthetic agent delivered on demand with a lockout interval to prevent over-dosage.

Breast Augmentation

I routinely perform augmentation mammoplasty via the periareolar subpectoral route with placement of saline-filled implants. My initial approach was to place the pain pump catheter through the axilla because I was uncomfortable with having the catheter exit through the same incision as was used for implant placement; my concern was that placing the catheter through an inframammary access point would cause scarring. However, this concern proved to be unwarranted; the catheter has a small diameter that does not produce a scar, and I quickly discovered that it was easier to use the inframammary access site. I use a 3-day pain pump filled with 200 mL of one quarter percent bupivacaine HCL without epinephrine. In some patients, I will place additional local anesthetic through the access site provided in the tubing to gain another 24 hours of pain relief. I have not seen any periprosthetic infections using this device (Figure 1).

Abdominoplasty

I routinely place pain pump catheters (2) at the time of fascial repair with abdominoplasty. Initially, I placed one catheter behind the plication sutures and one below the abdominal flap. However, I have changed my technique for catheter placement (Figure 2). Because the pain experienced after an abdominoplasty is almost entirely due to the fascial repair, I place both catheters beneath the repair (one high and one low in the midline). I also routinely infiltrate the rectus fascia before excising the redundant tissue and, using the same anesthetic solution, irrigate the pain pump catheters after wound closure. The catheters exit the suprapubic area adjacent to the drains and a large Op-Site dressing (Smith & Nephew Med. Ltd., Hull, England) isolates and prevents movement of the drains and pain pump catheters (Figure 3).

Additional Benefits

The difference in postoperative pain experienced by my patients has been remarkable. Patients are able to ambulate the evening of surgery, and the anesthesiologists have noticed a significantly decreased need for post-
operative pain medication.

I believe that early ambulation in patients who have undergone an abdominoplasty significantly reduces the risk of deep vein thrombosis and pulmonary embolism. Certainly, facilitating early ambulation by reducing postoperative pain influences morbidity.

Reduced postoperative pain, in my judgment, also improves pulmonary physiology. When patients are more comfortable they are more inclined to breathe deeply, which achieves maximal excursion of the diaphragm. This is especially important in patients with a high body mass index in whom atelectasis is more likely to develop after the diastasis recti is repaired. Reducing postoperative pain also enables patients to perform inhalation therapy exercises to diminish the possibility of compromised pulmonary function.

Figure 1. A, Insertion of catheter. B, The catheter is secured.

Figure 2. A, Insertion of first catheter—trocar insertion. B, The catheter is passed through the trocar. C, The sheath is removed. D, The catheter is placed beneath fascial plication. E, Second catheter placement.
Using pain pumps for breast augmentation and abdominoplasty is not only good for patients but also can benefit your practice. Patients share their positive experiences with friends, neutralizing the fear of postoperative pain associated with these surgeries.

Note: The author is on the Speaker’s Bureau for ON-Q Pain Pumps.
Reprint requests: Malcolm D. Paul, MD, 1401 Avocado, Suite 810, Newport Beach, CA 92660.
Copyright © 2005 by The American Society for Aesthetic Plastic Surgery, Inc.
1090-820X/$30.00
doi:10.1016/j.asj.2005.01.001