Cosmetic Follow-Up

Prevention of Capsular Contracture

Hilton Becker, M.D., and Rachelle Springer, A.R.N.P., M.S., C.S., C.P.S.N.
Boca Raton, Fla.

The incidence of capsular contracture in our practice has decreased from approximately 20 percent to less than 2 percent in our primary breast augmentations over the last 15 years. We believe that the following protocol has been instrumental in causing this change.

PREOPERATIVE PLANNING

Submuscular Placement

A total of 95 percent of implants are placed under the muscle. The placement of the implant in the submuscular plane allows for constant massage, decreased potential contamination of the implant through the breast ducts, and less chance of hematoma formation. This is because of the decreased vascularity of the submuscular plane as compared with the sub- glandular plane.[1] Although we cannot report exact statistics, we have found that the majority of capsular contractures have been in subglandular augmentations.

Smooth Implant

As infection is one of the leading causes of capsular contracture,[2] we feel that a smooth implant surface results in less bacterial adherence and, therefore, less potential for contracture. Although textured implants have reportedly resulted in less capsular contracture, [3,4] we have not noticed a significant difference.

Adjustable Implant

An adjustable implant (Spectrum, Mentor Corp., Goleta, Calif.) allows for overexpansion of the pocket and later volume reduction. Overexpansion is maintained in most patients for several weeks, and it seems to lessen the incidence of capsular contracture. Should a capsular contracture occur, a closed capsulotomy is performed, at which point the implant is overexpanded for 2 to 3 months, allowing a new, expanded capsule to form. The implant is then deflated to its normal size, which usually results in softening of the capsule. When a capsular contracture is being treated or an implant is being replaced, the ability to expand residual scar tissue has proven to be extremely beneficial. [5]

Prophylactic Antibiotics

Perioperative prophylactic oral antibiotics, given for 1 week starting 1 day before surgery, help to prevent infection (500 mg of Keflex four times a day or 500 mg of Cipro twice a day if the patient is allergic to penicillin or cephalosporin). One dose of intravenous antibiotics is given 30 to 60 minutes before surgery (1 g of Ancef or 400 mg of Cipro). Although antibiotics are routinely used for 24 to 48 hours, we feel that any implant can be associated with a seroma, which can be a nidus for bacteria. It is for this reason that we recommend an extended course of 1 week.

Infection Screening

Preoperative screening for infection (complete blood count, urinalysis, and physical examination) is mandatory. Patients are also advised to notify our office with any signs or symptoms of illness within 48 hours before surgery. Appropriate referral is made if necessary, and surgery is rescheduled.

Hematoma Prevention

Hematoma prevention begins with cessation of aspirin and aspirin products, nonsteroidal anti-inflammatory drugs, and vitamin E supplements 2 weeks before surgery. Alcohol is stopped 5 days before surgery because of its potential for vasodilation and interaction with

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anesthetics. Preoperative blood pressure is taken with the medical history to screen for hypertension, which can contribute to hematoma formation. Referral for evaluation is done as necessary. The patient is questioned directly about bleeding problems, and positive responses are explored further with referral.

Smoking

The patient is advised to stop smoking (that includes the use of nicotine patches and breathing secondary smoke) for 2 weeks before and two weeks after the operation. Smoking impairs wound healing and can lead to postoperative infection.[6] If the patient is unable to stop smoking, she is advised that an inframmary incision is recommended over the periareolar incision because of the potential for impaired wound healing.

INTRAOPERATIVE TECHNIQUE

Prevention of Implant Contamination

A strict sterile technique is mandatory to prevent bacterial contamination. Preparation and draping is monitored by the circulator to prevent inadvertent contact with a nonsterile surface. Powder-free gloves prevent foreign body reaction, which could contribute to capsular contracture.[2] Gloves must be changed before handling the implant to prevent contamination from skin and tissue dissection. Implants must never remain uncovered on the back table for any period of time. Keep them in their sterile containers until ready for use to prevent airborne or accidental contamination. Bathe the implant in a foaming bacitracin and saline solution (because foam will adhere better to the surface of the implant), and irrigate the pockets with the same solution drawn off before implant submersion (the scrub nurse who has not yet changed gloves can perform the pocket irrigation. Betadine solution should not be used because it has been shown to have deleterious effects on silicone.? Proper retraction and insertion techniques prevent the implant from contacting skin. The implant is filled from a closed filling system instead of an open basin of saline that could potentially be contaminated.

Prevention of Intraoperative Bleeding

Use of large volumes of dilute local anesthetic (200 to 300 cc) aids in hemostasis. Blunt dissection of the pocket also helps to insure hemostasis. Intraoperative expansion helps to create a large pocket and free up the muscle. Intraoperative hypertension is promptly treated with intravenous medications. Drains are avoided if possible because of their potential for infection; however, if there is more than slight bleeding, a drain will be used for 1 to 2 days only. The drain is inserted along a subcutaneous tunnel to prevent retrograde infection.

POSTOPERATIVE PROCEDURES *Prevention of Early Hematoma*

Patients are advised to avoid overactivity for a minimum of 2 weeks postoperatively to help prevent hematoma formation. Compression is applied for 24 hours after surgery to minimize the potential for bleeding once the initial epinephrine-induced vasoconstriction has worn off.

Implant Movement (as Opposed to Breast Massage)

Early implant movement (within 2 days of surgery) is recommended, and aggressive movement is instituted if firmness is noticed. It is important that the patient be instructed in the proper technique of moving the implants (with full excursion throughout the pocket and pressure techniques to increase the diameter of the implant, performed three times daily), as opposed to just massage of the breast tissue, to insure maximal results.[8] A velcroelastic strap (Breast strap, Cosmetic Solutions, Boca Raton, Fla.) is applied to facilitate early postoperative implant positioning when needed.

Infection Prevention

The patient is kept on antibiotics for 6 days postoperatively. The question of antibiotic prophylaxis with dental cleanings remains unresolved.

Therapeutic Agents

As to the use of vitamins and other therapeutic agents for the prevention of capsular contracture, we have not had any convincing experience with any reliable regimens.

Hilton Becker, M.D.
5458 Town Center Road, Suite 101
Boca Raton, Fla. 33486

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