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FEATURES:

IGNÁC SEMMELWEIS, THE RESCUER OF MOTHERS

THE SAFETY AND EFFICACY OF BOTULINUM TOXIN TYPE A PLUS TAZAROTENE 0.1% CREAM IN THE TREATMENT OF LATERAL CANTHAL RHYTIDS: A RANDOMIZED, DOUBLE-BLIND, PLACEBO-CONTROLLED STUDY

TWO-YEAR EXPERIENCE WITH THE AVELAR ABDOMINOPLASTY

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DRAINS IN BREAST AUGMENTATION

MAMMOGRAMS IN COSMETIC BREAST SURGERY

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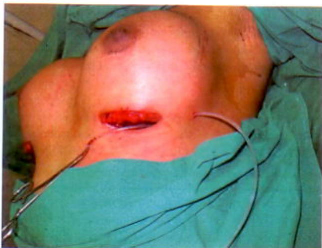

Figure. *A tube drain being pulled through a stab incision into a breast implant pocket.*

dressing was done in all cases, and the drains were removed the next day. In a minority (6 patients) where there was significant soakage, the drains were kept in place until the discharge became minimal (maximum 48 hours). Intra- and postoperative antibiotic coverage was used with amoxicillin and clavulanic acid. Postoperative antibiotic coverage was given for 5 days. The postoperative regimen included stretching exercises beginning the next day and breast massage from the second postoperative week.

Results

All cases were followed up regularly for 6 months. There were no cases of implant infection or early capsular contracture. Patients were evaluated visually and by palpation. None of the patients had implant malposition. Two patients had dissatisfaction over the size of the breast, however.

Discussion

Capsular contracture is the most common complication after breast augmentation. The reported incidence ranges from 0.5% to 30%[4]. An exact etiology for this frustrating problem has eluded surgeons until now and may remain a perplexing problem for even longer. Hypertrophic scarring and subclinical infection are thought to be the two most likely reasons for capsular contracture.[4] Hypertrophic scarring is thought to be secondary to hematoma, seroma, or silicone gel bleeding.

Submuscular augmentations have shown significantly lower rates of contracture. Reasons for this are thought to be continuous "massaging" by muscular contractions and absence of direct contact with breast tissue, which is a potential source of infection with *Staphylococcus aureus*.

The submuscular pocket also offers protection against visible rippling of saline implants. After US Food and Drug Administration approval for use of cohesive gel implants, we have been using only these implants, although we used saline implants earlier. A subglandular pocket is the preferred choice in our center for gel implants as the look and feel is more natural. Even though a higher incidence of capsular contracture in the subglandular position was found for the "high-bleed" gel implants, proactive preventive strategy has to be adopted for cohesive gel implants as well.

Cohesive gel implants are expected to decrease capsular contracture rates by two means.[5] First, they present a decreased stimulus for myofibroblastic activity as the cross-linking of silicone would prevent migration of silicone particles. Second, being a less deformable implant, it can exert counterpressure on the surrounding capsule.

In a study of 24 patients, Prantl et al[6] demonstrated, using implants with high gel cohesiveness (third-generation implants), the presence of vacuolated macrophages with microcystic structures containing silicone and silicone particles in the capsular tissue. This shows that migration of silicone particles can happen even in high cohesive implants.

Because capsular contracture is multifactorial, it is important to adopt preventive strategies against all the possible contributing factors, including hematoma and seroma. Although it seems logical that use of drains to reduce incidence of hematoma would also reduce capsular contracture rates correspondingly, evidence points the other way. A higher rate of capsular contracture, especially early breast capsule formation, has been noted by Araco et al[7] in cases where drains were used.

Our experiences with tube drains has been very satisfying. Although a larger series, a controlled study, and longer follow-up would be required to categorically prove this, we can safely assume two important facts:

1. Drains kept for 24 to 48 hours do not cause retrograde infection.
2. Drains in subglandular cohesive gel implants are not associated with early breast capsular contracture.

Conclusions

Subglandular augmentations need a comprehensive preventive strategy against capsular contracture. Preventing hematoma is an important aspect in this regard.

CLINICAL SCIENCES PRESENTATION

Drains in Breast Augmentation

Mohan Thomas, MD, DDS; Harikumar Menon, MS MCh; James Allen D'Silva, MS MCh

Introduction: *Capsular contracture is the most discussed aspect in breast augmentation. Drains are important in preventing hematoma and subsequent capsule formation, but drains have been associated with increased incidence of early breast contracture and infection. The purpose of this article is to review the use of drains during breast augmentation surgery and to present their effect on the incidence of capsule contracture observed in a short-term study of patients receiving breast augmentation with cohesive gel implants.*

Material and Methods: *Sixty consecutive cases of breast augmentation with cohesive gel implants were followed up for 6 months. All cases had tube drains for 24 to 48 hours postoperatively.*

Results: *Infection and early capsular contracture were not observed in this study.*

Discussion: *With the US Food and Drug Administration's clearance of cohesive gel implants, subglandular placements are bound to increase. Subglandular placement is associated with increased incidence of capsular contracture. Meticulous hemostasis and the use of drains to prevent hematoma are important aspects in preventing capsular contracture.*

Conclusion: *Our experience shows that drains are safe and effective and do not increase infection rates or cause early capsular contracture.*

Capsular contracture is the most studied problem affecting the success of breast augmentation. There are conflicting opinions on the etiology of capsular contracture, and different strategies for preventing capsular contracture have been proposed. Historically, placement of the breast implant in a subglandular pocket has been associated with a higher risk of contractures. With the increasing use of cohesive gel implants, the number of implants placed in the subglandular position is also increasing. All aspects of contracture prevention need to be reexamined in the context of the increasing use of cohesive gel implants.

The use of drains is one preventive measure that should be rethought. Drains are an important aspect in preventing hematoma. The use of drains to prevent seromas and consequent asymmetry is well documented.[1] Retrograde infection and incidence of early breast capsule contractures have been linked to the use of drains in breast augmentation procedures,[2,3] and the routine use of drains was discouraged during aesthetic breast augmentations.

We have reevaluated the use of drains in a short-term study. The purpose of this article is to review our observations on the use of drains during breast augmentation surgery and to present their effect on the incidence of capsule contracture as observed in a short-term study of patients receiving breast augmentation with cohesive gel implants.

Methods

Sixty consecutive patients receiving bilateral breast augmentation were followed up for 6 months. All of the patients had augmentation using silicone cohesive gel implants in the subglandular plane through inframammary incision. All implants were textured and high profile. Both McGhan and Mentor implants were used. Implant size varied from 190 to 450 mL. All the procedures were performed as day surgery.

Dissection was performed using electrocautery, and meticulous hemostasis was achieved under direct vision using lighted retractors. Adequacy of pocket size was confirmed using sizers. A 10-French feeding tube was used as a drain in all cases. The drains were placed in the lower limit of the pocket and exited through a stab incision lateral to the inframammary incision (Figure). Open drainage was used; hence, accurate assessment of the amount of drainage could not be made. We used 4 layers of 4×4 surgical gauze pieces. Light airtight

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From the Cosmetic Surgery Institute, Mumbai, India.
Corresponding author: Mohan Thomas, MD, DDS, The Cosmetic Surgery Institute, 169, Lily villa, St. Andrews road, Off turner road, Bandra(West) Mumbai, Maharashtra 400 050 India (e-mail: cosmodoc1@yahoo.co.in).

Along with meticulous hemostasis, use of drains is a safe and effective method. Implant infection and early capsular contracture did not occur with the use of open drains for 24 to 48 hours.

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Commentary:

The occurrence of capsular contracture has remained an enigma since breast augmentation was introduced. Thru the 1980s until the silicone moratorium in 1991, capsule rates approached 50% or higher. Many solutions were tried, none being very effective. Closed capsulotomy was done very frequently. (I personally felt that the "gel bleed" that was normal for the silicone gel implants of this era was in large part responsible.)

When the "updated" saline implants were introduced as a result of the unavailability of silicone gel, most all of us noted a much lower incidence of capsule formation. This trend has continued with the advent of the cohesive gel implants.

Still, however, contracture does occur, even though the incidence is much less than with those older implants. This article describes the author's opinion after a very short study in a limited number of cases. The study was too short and limited to derive accurate scientific data. However, the author's findings and conclusions are no less appreciated.

There is debate among surgeons as to whether drains prevent hematoma formation. Many feel they do not. Also there is debate as to the efficacy of passive versus active (suction) drains. Most feel suction is more beneficial. In this study, perhaps more information could be gleaned by draining only one side then comparing results.

Based on this study, the author's conclusions seem valid. I appreciate their efforts.

Claude H. Crockett, Jr., MD, FACS
Bristol, TN