# Discussion: Late Seromas after Breast Implants: Theory and Practice

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The presentation of a patient with a late periprosthetic breast seroma creates a therapeutic conundrum for many plastic surgeons, frequently setting off a cavalcade of e-mails to colleagues seeking advice. The recent description of anaplastic large cell lymphoma, the most common presentation of which is a seroma, has increased surgeon concern over seroma management.[1–4] In contrast to familiar approaches to capsular contracture, late seromas are often managed in a "one-off" manner.

This level IV retrospective multicenter case control study followed the treatment and outcome of 28 seromas in 25 patients occurring in three surgeons' practices. Five different therapeutic strategies were used in these patients, and all seromas were successfully treated.

This is correctly described as a level IV study. But although multicenter, it is a retrospective review of three separate physicians' practices. There was not collaboration among the institutions to prospectively define diagnostic or therapeutic criteria. There were no case–controls and no comparisons between treatments made. In some respects perhaps, this study might be more accurately described as three separate level IV studies that were combined and presented simultaneously.[5]

A primary finding was that all the various management strategies undertaken by the authors proved successful. But that does not mean that *any* strategy would work. Readers must understand that these authors used specific procedures: replacement/capsulectomy, replacement/no capsulectomy, capsulectomy/removal, drainage, and antibiotics. Some surgeons reuse implants following capsular contracture or seroma surgery, but these authors always used a new implant at surgery (and with recent evidence about the association of biofilm with capsular contracture, implants should always be replaced during capsular contracture surgery.) They were also definitive with their therapy, limiting numbers of repeated aspirations and not attempting to treat the seroma with tight dressings in the unrealistic hope that it would resolve spontaneously. In an effort to protect the implant from damage, drainage was only performed with ultrasonic guidance and not blind aspiration.

It is not clear whether the various methods would be equally effective in all circumstances. Seromas can occur from multiple etiologies, and it is not known whether the underlying causes of each seroma between practices or within each practice were the same or that the choice of therapy was somehow affected by subtleties of clinical presentation not captured in the collected data.

The authors defined late seroma as occurring at least 1 year after implantation, with the mean occurrence at 4.7 years. Nothing in this article should be construed to apply to breast enlargement occurring in the first year after augmentation, for which the underlying causes and treatments may be much different.

There were only a few patients in some of the groups (15 by capsulectomy and placement of new implant, three by new implant but without capsulectomy, two by capsulectomy without implant replacement, five by ultrasonic aspiration, and three by antibiotics alone). These numbers are too small to determine whether the outcomes would be equivalent with each of these strategies.

The study considered the resolution of the presenting seroma as a success. But avoiding subsequent contracture is important; however, contracture grade after the seroma was not evaluated. And with less than 1 year of follow-up for treatment of a disorder that took nearly a mean

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of 5 years to develop, it is unknown whether these patients will remain seroma-free in the future. Furthermore, the data showed a strong tendency for seromas to be associated with the Biocell (Allergan Medical Corporation, Santa Barbara, Calif.) surface texture. Seroma patients with Biocell have likely proven a susceptibility to seroma with that surface. To minimize the chance for another seroma in the future, consideration should be given to avoiding this implant surface in seroma patients.

A total of 27 of the 28 cases had Biocell implants, and one had a smooth-surfaced implant, showing that Biocell had a statistically higher risk for seroma development ($p < 0.0001$). All of the seromas occurred in patients previously implanted by one of the surgeons. None of the surgeons had used textured surfaced implants made by Mentor (Santa Barbara, Calif.) or Sientra (Santa Barbara, Calif.) during the years of the study. This article therefore offers no data as to the risk of seroma development with these surfaces relative to Biocell or even relative to the smooth implants by those same manufacturers.

The rationale for texturing has been for reduction of capsular contracture and maintaining the intended orientation of shaped devices. The objection to texturing has been implant feel and greater difficulty of insertion. The only data suggesting an advantage of texturing for capsular contracture have been through meta-analysis, and these differences were only seen in the subglandular position. The data in this article are highly statistically significant and may be part of the preoperative selection of implant surface.[6–10]

Anaplastic large-cell lymphoma has been associated with implant texturing by the "salt-loss" process. Even though anaplastic large-cell lymphoma is exceedingly rare, with fewer than 100 cases reported worldwide, a surgeon confronted with a patient who has a textured implant and a late seroma must rule out anaplastic large-cell lymphoma by sending fluid for cytology.

In recent years there has been an increasing emphasis on disclosures of conflicts of interest by authors. Each of these authors is a consultant for the manufacturer of Biocell surface implants, yet they still presented the data completely.

Much remains to be known about late seroma after breast augmentation. But these authors have made a significant contribution that will offer practical guidance to surgeons treating patients with late periprosthetic breast seromas.

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