

## A Case of Life-Threatening Sepsis After Breast Augmentation by Fat Injection

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**Abstract.** A case is presented in which an aesthetic breast augmentation by fat injection led a young woman to a life-threatening sepsis due to bilateral mammary abscesses. Immediate and late complications of this procedure are considered; infection is the frightful complication that can lead to septic shock, affecting survival, aesthetic outcome, and reconstruction possibilities of the patient's breasts.

**Key words:** Fat injection—Breast augmentation

### Case Report

A 34-year-old woman underwent a bilateral augmentation mammoplasty by injection of an unknown volume of fat after a thigh bilateral liposuction, which was performed as an out-patient treatment by a non-plastic surgeon. After 15 days the patient came to our emergency department in a septic state: fever (40–41 °C), local infection signs above all at the right and left upper external quadrants of breasts (painful lump and an intense erythema), and early mild renal failure (Fig. 1). Ultrasonography of breasts showed large bilateral abscesses. 200 cc of purulent fluid from the right breast was drained by needle aspiration.

An emergency operation was performed in order to prevent irreversible endotoxic shock: two 5-cm incisions at the upper external quadrants of the breasts were performed and abundant pus (250 cc from the right side and 500 cc from the left) was drained (Fig. 2). The mammary glands seemed to be free from infection. Accurate washing with saline solution and hydrogen peroxide and plug-

ging with iodoform gauzes of the two cavities were carried out, leaving the two wounds open, allowing subsequent daily medications under sedation.

This surgical procedure and a focused antibiotic therapy with ceftriaxone (2 g, daily) brought the infection under control, eliminating septic and local symptoms. Nine days after the first procedure the patient underwent, under general anesthesia, the debridement and suture of the two wounds with positioning of suction-drain in axilla. The postoperative period was uneventful and the patient was discharged after one week in good condition.

### Discussion

The abundance of adipose tissue throughout the body suggests its application as a filling substance; injection of autologous fat obtained by liposuction has become a widely used technique for replacement of soft tissue defects, for obliteration of dead space, for improving facial and body contour depressions and scars and to obtain lip, cheek, penis, and periorbital augmentations [3]. Neuber was the first to pioneer the application of fat transplantation in humans in 1893 [7] and subsequently Lexer described success in establishing normal contour in hemifacial atrophy, in breast enlargement and other skin irregularities (1910) [4].

The results achieved vary and depend on the fat harvesting technique, the volume injected, the recipient area, and other unknown factors regarding the fate, still controversial, of transplanted fat cells [8]. The complications usually described are edema, hematoma, infection, granuloma, and cysts formations, and resorption [5].

Plastic surgeons largely prefer the use of implants of

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**Fig. 1.** The patient 15 days after the first operation: local infection signs above right and left upper external quadrant of the breasts are evident.



**Fig. 2.** The patient during the second emergency operation: abundant pus is coming out from the upper external quadrant of the right breast.

cartilage, bone, silicone, collagen, or dermal-fat grafts because of the variable results, or fear of infection. Even though fat autografting has recently gained popularity due to more predictable results, the applicability of this technique in some areas, like the breast [1], remains disputable.

Development of complications, immediate and later, after fat nonvascularized injection has been previously described [6]. The main late risk after the injection of large volumes of fat is the liponecrotic pseudocyst formation that causes a growing and painful mass [2,5]. Its treatment includes lumpectomy, with remarkable aesthetic damage and an unavoidable second stage breast reconstruction. The injection of small volumes of fat produces microcalcification that can interfere with the diagnosis of carcinomas on mammograms.

However, the most feared immediate complication is infection and the septic shock that can derive from it. The only therapeutic strategy is the surgical resolution of the local infection by draining the possible abscess caused by fat necrosis and inflammatory reaction.

The granulation and scar tissue of the healing process can lead to contraction and contracture of the mammary gland and skin with traumatic aesthetic outcomes, deturpating the breast mound of women, conditioning and restricting the future reconstruction possibilities in order to restore an acceptable body counturing and self-image. These considerations, together with the unlikelihood of obtaining a significant increase in breast volume, should definitely warn, also qualified plastic surgeons, against fat injection as a technique for breast augmentation.

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