

# Galactocele After Aesthetic Breast Augmentation with Silicone Implants: An Uncommon Presentation

Maristella Guerra<sup>1</sup> · Luca Codolini<sup>2</sup>  · Enrico Cavalieri<sup>2</sup> · Ugo Redi<sup>2</sup> · Diego Ribuffo<sup>2</sup>

Received: 23 August 2018 / Accepted: 4 November 2018 / Published online: 19 November 2018  
© Springer Science+Business Media, LLC, part of Springer Nature and International Society of Aesthetic Plastic Surgery 2018

## Abstract

**Background** Breast augmentation is one of the most frequently performed esthetic operations. Galactorrhea and galactocele formation are both very rare complications. The real cause still remains unknown, but various risk factors have been well reported in the literature. This report concerns a case of postoperative galactocele following bilateral breast augmentation via the inframammary approach with dual-plane insertion of implants, which is usually considered a protective approach in terms of risk factors for induction of postoperative galactorrhea.

**Methods** The patient had no significant surgical, gynecological or medical history, including galactorrhea or hyperprolactinemia, and did not present any chest wall abnormalities. There has been no use of oral contraceptives or any other drugs. After the surgical procedure, the patient presented with infection-like symptoms, for which galactorrhea or galactocele was initially not considered, mainly for the absence of specific risk factors.

**Results** After antibiotic and bromocriptine therapy, her breast returned to normal, with no pain, inflammation, enlargement or esthetic alterations. After 6 months of follow-up, the patient did not present any abnormality and she was satisfied with the result.

**Conclusion** With our report, we want to underline that galactorrhea and galactocele cannot be ruled out, even in patients with no risk factors and with procedures

considered as “protective.” With a fast diagnosis and a specific therapy, implants and final result can be rescued. **Level of Evidence V** This journal requires that authors assign a level of evidence to each article. For a full description of these Evidence-Based Medicine ratings, please refer to the Table of Contents or the online Instructions to Authors [www.springer.com/00266](http://www.springer.com/00266).

**Keywords** Case report · Galactocele · Breast augmentation · Breast implants · Galactorrhea · Humans

## Introduction

Breast augmentation with silicone implants is one of the most popular cosmetic surgical procedures in Europe and in the USA [1]. As for all surgical procedures, complications may occur after surgery. Therefore, an accurate knowledge of risks and benefits of the procedure and of any potential postoperative complications is necessary to provide an accurate and complete patient management. The most important complications of breast augmentation are infection, seroma, hematoma, capsular contracture, asymmetry, palpability and leakage or rupture of the implant [2]. Galactorrhea, instead, is one of the least common complications of augmentation mammoplasty [3]. It can present also as a galactocele, with milk accumulation inside the implant pocket. Due to its rarity, all publications on this subject have been case reports, except for a retrospective review recently published by Basile et al. in 2015 [3].

This report concerns a case of postoperative galactocele following bilateral breast augmentation via the inframammary approach with dual-plane insertion of implants, which is usually considered a protective approach in terms of risk factors for induction of postoperative galactorrhea.

✉ Luca Codolini  
luca.codolini@gmail.com

<sup>1</sup> Unit of Plastic and Reconstructive Surgery, San Galliciano-IFO Hospital, Rome, Italy

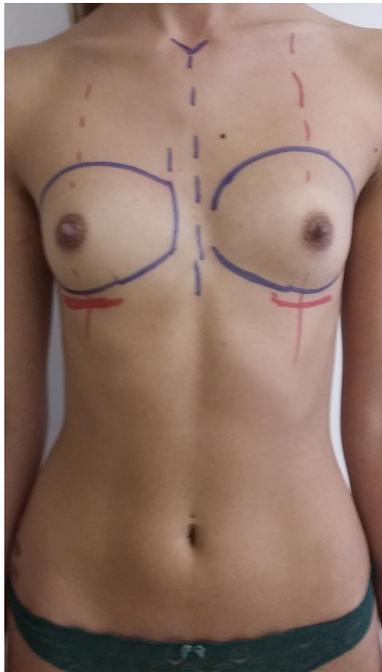
<sup>2</sup> Unit of Plastic Surgery, Sapienza University of Rome, Rome, Italy

## Case Report

A 20-year-old nulliparous woman presented with bilateral glandular breast atrophy for esthetic breast augmentation (Fig. 1). She had no significant medical, gynecological or surgical history. The patient did not use oral contraceptives, or any other drugs, and she had no personal history of galactorrhea or hyperprolactinemia. She did not present any chest wall abnormalities nor previous surgeries. She underwent bilateral dual-plane breast augmentation with 275-cc round textured implants (Mentor) and inframammary incision.

There were no complications during the first days, but on day 4 a murky secretion from the left drainage occurred, with mild pain and swelling of the breast (Fig. 2). Considering her medical history and the surgical procedure with the inframammary incision, considered “protective” for galactorrhea and galactocele, an infectious cause was initially hypothesized. We therefore prescribed broad-spectrum antibiotics. On day 6, drainage secretion was only about 30 cc and the drainage was therefore removed. No secretion from the nipple was present.

On day 7, the patient presented only a mild painless left breast swelling, with a fluid collection in the implant pocket. We drained 200 cc of liquid from the surgical wound, which was sent for culture. In the following days, the patient underwent strict clinical observation for fear of infection and implant failure.



**Fig. 1** Patient's preoperative front view



**Fig. 2** Left breast drainage secretion on fourth postoperative day

She reported daily to our clinic, still presenting with a mild painless swelling of the left breast, with a daily fluid collection of about 50 cc drained every time from the surgical wound. On day 10, the drained fluid presented with a milky appearance (Fig. 3), for which it was immediately sent for Sudan IV testing for fat droplets. Prolactine blood levels were also measured. Moreover, we decided to centrifuge the drained fluid as a preliminary test, and after centrifugation, it changed into a creamy texture, leading to



**Fig. 3** Left breast secretion on tenth postoperative day



**Fig. 4** Patient's postoperative front view (1 month post-op), after bromocriptine therapy and normalization of prolactin level

the hypothesis of galactocele. The patient promptly underwent bromocriptine 5 mg/day therapy.

Culture results were negative for bacterial growth after 48 h, but the Sudan IV test was positive. Prolactin levels were elevated (58.1 ng/dl). Treatment with bromocriptine 5 mg/day was confirmed in association with the previous oral antibiotics. The following days the secretion from the wound decreased significantly, and after 1 week, her breast had returned to normal, with no pain, inflammation, enlargement or esthetic alterations.

After 2 weeks, the bromocriptine dose was tempered to 2.5 mg daily. One month later, prolactin levels returned to normal and bromocriptine was suspended. After 6 months of follow-up, the patient did not present any abnormalities and she was satisfied with the result (Fig. 4).

## Discussion

Galactorrhea is one of the least common complications of augmentation mammoplasty [3]. However, upon occurrence, galactorrhea and galactocele represent a diagnostic challenge, because its first clinical appearance closely resembles a postoperative infection [4]. In our experience, also the fluid that drains from the deep tissues can appear more like a turbid infectious fluid rather than a milky secretion, probably because of milky, serum and blood secretions mixing in the drainage fluid (Fig. 2). Furthermore, the symptomatology is dominated by edema and pain, resulting from congestion of the mammary lactiferous lobules, which can mimic an infection.

There are several risk factors that should be considered when managing this rare complication [5]. Risk of postoperative galactorrhea is increased by number of pregnancies. Breast augmentation should also be performed at

least 1 year after a delivery and breastfeeding. In addition, a preoperative history of oral contraceptive use may increase the risk of galactorrhea after breast surgery.

Incision site may influence the possibility of implant infection or contamination by milky discharge from breast tissue when postoperative galactorrhea occurs [6, 7]. With a periareolar incision and approach, lactiferous duct injury is unavoidable during the operation. Alternatively, with a transaxillary or inframammary approach, there is low risk of damage or injury to lactiferous ducts; thus, the possibility of discharge collection around the implant is reduced.

When the silicone implant is inserted in the subglandular plane, it will be in contact with breast tissue. Galactorrhea is closely associated with chronic recurrent mastitis, and if galactorrhea after augmentation mammoplasty leads to chronic mastitis, this could result in periprosthetic inflammation [8].

Most of the cases of galactorrhea are associated with an elevated serum prolactin level. In the general population, the most common cause of serum prolactin elevation (in the absence of pregnancy and childbirth) is a prolactin-secreting prolactinoma of the pituitary gland. Other causes of elevated serum prolactin levels related to galactorrhea include increased secretion of TRH (thyroid-releasing hormone), secondary to hypothyroidism or adrenal insufficiency, and neuroleptic or psychiatric drugs, such as tricyclic antidepressants, which inhibit the release of dopamine and can lead to increased serum prolactin levels.

Serum prolactin levels are also elevated by peripheral stimulus mimicking sucking [7]; a similar stimulus may occur with manipulation during breast surgery. Skin incision and compression of breast tissue by implants and compressive dressings may also elevate serum prolactin level. It has been reported that hyperprolactinemia and galactorrhea are caused by various chest wall irritations including mammoplasty, burns, herpes zoster, trauma and spinal cord injury [4, 9].

The previous risk factors are universally considered important for the development of galactorrhea and galactocele. Considering the clinical presentation of our patient at day 4 post-op and the absence of risk factors, it was unlikely to think that symptoms were due to an incoming galactocele. However, the appearance of a milky aspiration from the periprosthetic collection led us to consider this rare complication.

According to the medical history of the patient and the type of surgery performed, we believe that in this case the triggering factor for the development of galactorrhea was the breast surgery itself. For this reason, we strongly believe that surgical trauma during breast surgery could be the only factor causing galactorrhea and galactocele in our case. Manipulation of breast tissue during surgery, skin incision, breast tissue compression can be sufficient factors

to cause galactorrhea or galactocele. Central stimulus for milky secretion from breast and mammary stretching during and after surgery is certainly the triggering stimulus for the development of galactorrhea and galactocele in breast surgery.

In conclusion, galactorrhea and galactocele are uncommon but potentially serious complications after breast augmentation and should always be considered, also in patients without any risk factors and with procedures considered as “protective.” With a fast diagnosis and a specific therapy, implants and final result can be saved.

**Acknowledgment** None of the authors has anything to disclose. No funding was received for this article.

#### Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflict of interest.

## References

1. Cosmetic Surgery National Data Bank: Statistics 2013 (2014) *Aesthet Surg J* 34:1S–22S
2. Adams WP Jr (2008) The process of breast augmentation: four sequential steps for optimizing outcomes for patients. *Plast Reconstr Surg* 122:1892–1900
3. Basile FV, Basile AR (2015) Diagnosis and management of galactorrhea after breast augmentation. *Plast Reconstr Surg* 135(5):1349–1356
4. Acarturk SA, Gencil E, Tuncer I (2005) An uncommon complication of secondary augmentation mammoplasty: bilaterally massive engorgement of breasts after pregnancy attributable to postinfection and blockage of mammary ducts. *Aesthet Plast Surg* 29:274–279
5. Yang EJ, Lee KT et al (2012) Treatment algorithm of galactorrhea after augmentation mammoplasty. *Ann Plast Surg* 69:247Y249
6. Ayestaray B, Dudrap E, Chaibi A (2011) Galactorrhea after aesthetic breast augmentation with silicone implants: report of two cases and management of postoperative galactorrhea. *Aesthet Plast Surg* 35:408Y413
7. Chun YS, Taghinia A (2009) Hyperprolactinemia and galactocele formation after augmentation mammoplasty. *Ann Plast Surg* 62:122Y123
8. Muhlenstedt D, Schneider HPE (1976) Chronic recurrent mastitis associated with galactorrhea: case report. *Geburtshilfe Frauenheilkd* 36:1102Y1104
9. Karimi H, Nourizad S, Momeni M, Rahbar H, Momeni M, Farhadi K (2013) Burns, hypertrophic scar and galactorrhea. *J Inj Violence Res* 5:117–119