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Case Report

Management of AQUAfilling® Filler Application Complications

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Abstract

In recent years, the use of AQUAfilling® filler has become widespread, particularly in breast and gluteal augmentation, which are among the most common aesthetic surgical procedures. Although AQUAfilling® filler is claimed to be biocompatible with human tissue, the number of complications associated with it continues to increase. The invasion of AQUAfilling® filler into the parenchyma, as well as the toxicity and oncogenicity of its main component, polyacrylamide, remain uncertain and require further investigation. In this study, we present three female patients with a history of AQUAfilling® filler injection for breast and gluteal augmentation who experienced long-term major complications. We aim to emphasize the significance of long-term complications of AQUAfilling® filler material and contribute to the reconstruction options in managing these complications.

Keywords: AQUAfilling® Filler, breast augmentation, complications, gluteal augmentation

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Surgical procedures to improve body aesthetics have long been used worldwide. Breast augmentation is one of the most commonly performed aesthetic surgeries globally. However, due to the complications associated with surgeries, the costs, and the potential need for revisions, patients are seeking non-surgical alternatives. In recent years, AQUAfilling® filler has become widely used in breast and gluteal augmentation, which are among the most common aesthetic procedures.[1] Although AQUAfilling® filler is said to be biocompatible with human tissue, the number of associated complications continues to rise. This case series emphasizes the possible long-term complications of using AQUAfilling® filler in large areas such as the breasts and gluteal regions and the importance of managing these complications seriously.

Materials and Methods

This study focuses on three female patients who visited our clinic between 2022 and 2024, with a history of AQUAfilling® filler injection for breast and gluteal augmentation, and who experienced long-term major complications. The average age of the women is 37.7 years. Two women had undergone breast augmentation, and one had undergone gluteal augmentation with AQUAfilling® filler at an external facility.

Case 1 — A 35-year-old female patient had undergone breast augmentation six years earlier, with 150 cc injected into one breast and a total of 300 cc bilaterally of AQUAfilling® filler. Two years after the procedure, she experienced swelling in the right breast, followed by redness and increased temperature in the left breast, leading her to seek medical help at an external facility (Fig. 1). A filler

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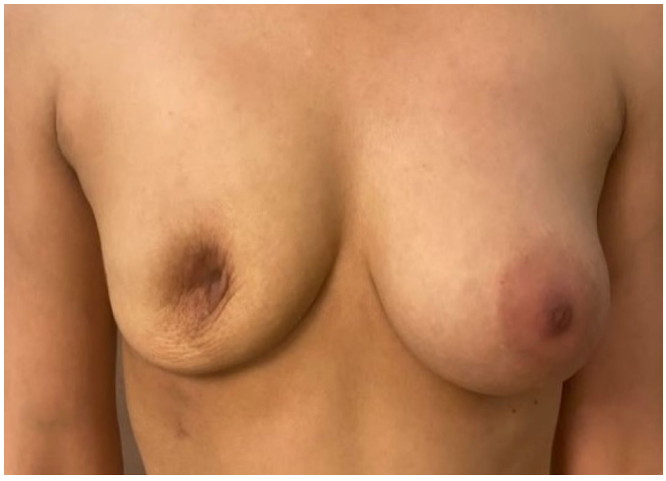

Figure 1. Preoperative photograph.

dissolution procedure was performed, but her symptoms worsened after this. MRI imaging showed 'cyst-like nodules appearing hypointense on T1-weighted sequences and hyperintense on T2-weighted sequences'.[2] Elevated acute phase reactants were noted in the blood tests, and a culture from the draining area indicated an infection caused by Staphylococcus Aureus, for which she was treated with methicillin. After two months of remission, her symptoms returned, including redness and drainage, and she was managed conservatively with antibiotics for one year. With increasing discharge and aesthetic deformities, particularly in the right breast, she visited our clinic. Physical examination revealed noticeable indentations, especially in the 8 o'clock position of the right breast, and palpable nodules. Blood tests indicated elevated C-reactive protein and sedimentation rates, and prophylactic antibiotic treatment was initiated for a week. After treatment, considering the patient's wishes, debridement and simultaneous reconstruction with an implant were performed. The surgery involved an inframammary incision under general anesthesia, where the AQUAfilling® material that had invaded the glandular tissue and pectoralis major muscle was removed via hydro and surgical debridement (Fig. 2). Following hemostasis, an implant was placed using the dual plane-2 technique, and Hemovac drains were applied. The drains were removed on postoperative day 4, and the patient continued methicillin treatment due to persistent AFR elevation. The patient was followed up until the second postoperative year with no recurrence of pathology (Fig. 3).

Case 2 — A 38-year-old female patient had undergone bilateral breast augmentation eight years earlier, with 100 cc injected into one breast and a total of 200 cc bilaterally of AQUAfilling® filler. Although she experienced no complications after the procedure, she had a filler dissolution treatment performed. Following the dissolution, she developed

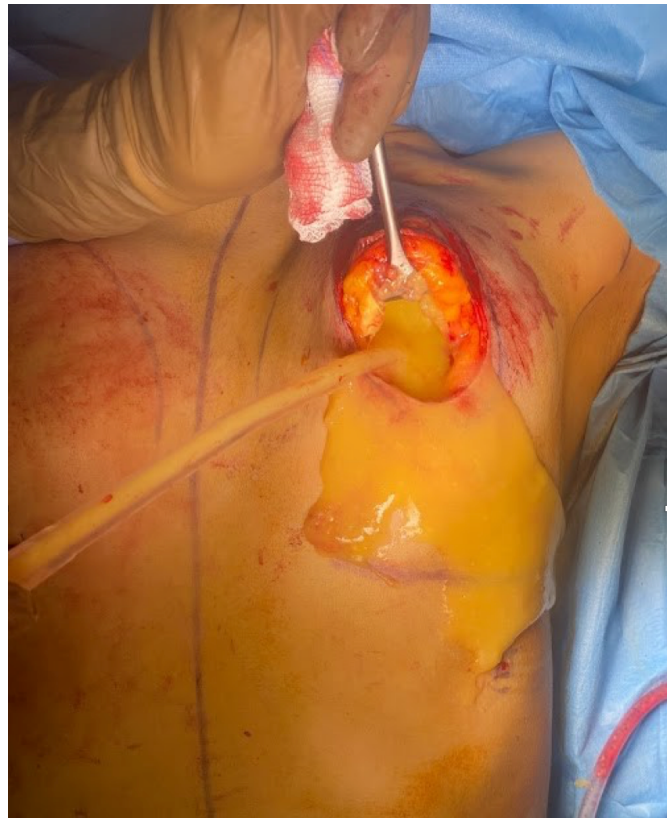

Figure 2. Peroperative photograph.

redness, swelling, and aesthetic deformities, especially in the right breast, leading her to visit our clinic. Her blood tests and imaging showed normal AFR, while breast ultrasound revealed 'anechoic or hyperechoic material without a significant capsule'. After obtaining her consent, breast debridement and simultaneous implant placement were planned.

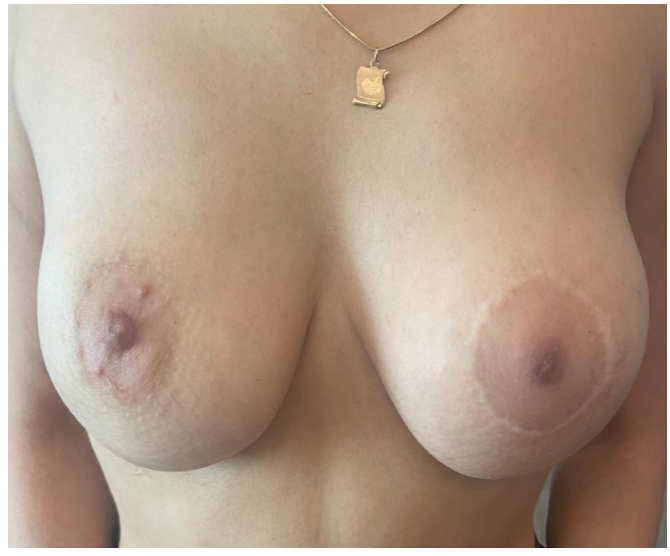

Figure 3. Postoperative 24-months photograph.

Surgery was performed under general anesthesia, with an inframammary incision. The AQUAfilling® material, which had invaded the glandular tissue and pectoralis major muscle, was removed via hydro and surgical debridement. The implant was placed using the dual plane-2 technique, and Hemovac drains were applied. The patient was discharged after the drains were removed on postoperative day 3, and no pathology was observed during the one-year follow-up.

Case 3 — A 43-year-old female patient had undergone gluteal augmentation with 200 cc injected into one buttock and a total of 400 cc bilaterally of AQUAfilling® filler. Four years after the procedure, she developed palpable masses, particularly in the right thigh, and visited an external facility where a filler dissolution was performed on both buttocks. However, her complaints of palpable masses in the right thigh persisted. MRI from an external facility indicated 'filler material causing widespread granulomas in the bilateral gluteal and thigh regions'. Bilateral thigh liposuction was performed to remove the migrated filler. One week after liposuction, drainage began from the lateral aspect of the right thigh, and a culture was taken. The microbiology results revealed Pseudomonas Aeruginosa, and the patient was treated with IV amikacin and meropenem. After repeated drainage and swelling in the right thigh, the patient visited our clinic. Physical examination revealed three palpable masses of approximately 1x1 cm in the lateral right thigh, and drainage from a 1 cm incision line from a previous surgery in the right gluteal region. Blood tests, imaging, and microbiology were repeated, and Pseudomonas Aeruginosa was again isolated. Following the advice of the infectious disease team, amikacin and meropenem treatments were continued. Surgical debridement and VAC application were planned, and surgery was performed under general anesthesia. Necrotic and infected tissues were surgically debrided through the old incision in the right gluteal area. Hydro debridement was then performed with Betadine, hydrogen peroxide, and saline. After hemostasis, VAC application was completed. This procedure was repeated nine times. Cultures were taken during each surgery, and microbiology results were monitored under antibiotic treatment. VAC therapy was discontinued after the microbiology results showed no growth and AFR levels decreased, and the surgical wound was closed with sutures. The patient was followed up without antibiotics until the first postoperative month, and no pathology was observed during the third-month follow-up.

Discussion and Conclusion

AQUAfilling® (BIOTRH s.r.o Prague, Czech Republic; sold under the name Los Deline) has been used as a soft tissue filler in the face, chest, and buttocks since 2005.[2,3] According to the manufacturer, AQUAfilling® consists of 98% physiological saline and 2% polyamide; however, some literature indicates that it also contains polyacrylamide. The invasion of AQUAfilling® into the parenchyma is concerning, as the toxicity and oncogenicity of polyacrylamide, the main ingredient in the filler, remain unclear and require further investigation.[4] AQUAfilling® is also known to trigger chronic inflammatory processes, which may increase the risk of cancer development. The variability in the appearance of AQUAfilling® gel under different radiological imaging techniques can lead to significant confusion. migrated material may be mistaken for parasitic infections or granulomatous diseases based on MRI findings, and patient history is essential in guiding diagnosis. Filler use has been associated with numerous complications, including mastalgia, filler migration, palpable lumps, tenderness in the breasts and buttocks, breast gland infections, and breast fistula formation, even in the absence of visible symptoms. In such cases, removal of AQUAfilling® from all tissues it has contacted is recommended. Due to the invasive nature of the filler into muscles, ultrasound-guided liposuction has been recommended in the literature for removing filler in breast and buttock applications. However, in one of our gluteal AQUAfilling® cases, we observed that liposuction performed by an external facility to remove the filler actually caused further spread of the filler material. In breast cases, despite the disadvantage of scarring, surgical removal of the parenchyma is a safer method compared to liposuction. Namgoong et al.[5] advocate for at least a six-month interval between AQUAfilling® removal and reconstruction with a prosthesis in the breast and buttocks. This topic remains controversial in the literature. However, in our two cases, we opted for simultaneous reconstruction with an implant following debridement. This decision was influenced by the rapid resolution of deformity in a process that is psychologically challenging for the patient. Additionally, implant placement without fibrotic changes in the tissues created by good surgical debridement reduces postoperative complications.[5] In AQUAfilling® applications, which are still frequently performed despite being banned in many countries and significantly reducing the quality of life of patients with recurring symptoms, laboratory and imaging results should be evaluated together, and the filler material should be surgically removed. Despite the scarring disadvantage of surgical procedures, the removal of this poorly infiltrating filler material increases the success rate of clearance. In particular, we have experienced positive results in simultaneous implant application in breast cases after the removal of AQUAfilling®. While waiting for reconstruction after the removal of AQUAfilling® is an option, simultaneous reconstruction should also be considered, especially to rapidly improve the patient's quality of life.[6]

Disclosures

Informed Consent: Informed consent forms were obtained from the patients.

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References

1. The Aesthetic Society. Aesthetic Plastic Surgery National Databank: Statistics 2019. Available at:https://cdn.theaestheticsociety.org/media/statistics/2019TheAestheticSocietyStatistics.pdf. Accessed Aug. 25, 2022.
2. Kayadibi Y, Karagoz SH, Kargin OA, Kurt SA, Kundaktepe BP, Onur I. A rare cause of breast swelling in lactating women: Aquafilling® Gel Injection Med Bull Sisli Etfal Hosp 2023;57:552–6. [Crossref]
3. Atiyeh B, Ghieh F, Oneisi A. Safety and efficiency of minimally invasive buttock augmentation: a review. Aesthetic Plast Surg 2023;47:245–59. [Crossref]
4. Nomoto S, Hirakawa K, Ogawa R. Safety of copolyamide filler injection for breast augmentation.Plast Reconstr Surg Glob Open 2021;9:e3296. [Crossref]
5. Namgoong S, Kim HK, Hwang Y, Shin SH, You HJ, Kim DW et al. Clinical experience with treatment of AQUAfilling® filler-associated complications: a retrospective study of 146 cases. Aesthetic Plast Surg 2020;44:1997–2007. [Crossref]
6. Harrison D, Selvaggi G. Gluteal augmentation surgery: indications and surgical management. J Plast Reconstr Aesthet Surg 2007;60:922–8. [Crossref]