

Varicella Manifestation after Mastopexy with Simultaneous Breast Augmentation

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Summary: We report on a rare case of primary varicella infection manifestation in the early postoperative period after mastopexy with simultaneous breast augmentation that caused dehiscence of surgical wound edges and spread of infection to a subcutaneous fat layer, leading to unaesthetic scarring. Whether such dehiscence in the background of varicella occurred coincidentally or was specifically triggered by the infection is unknown. The treatment is comprised of oral antiviral therapy, surgical wound debridement, and topical application of antiseptic solutions and ointments. We would like to raise awareness of the existence of such a rare case of chickenpox in an early postoperative period of a plastic surgery patient. Thereby, physicians can recognize it, test for it, and treat it promptly and appropriately. Also, we recommend taking a detailed history of infectious diseases. (*Plast Reconstr Surg Glob Open* 2023; 11:e4807; doi: [10.1097/GOX.0000000000004807](https://doi.org/10.1097/GOX.0000000000004807); Published online 2 February 2023.)

We present a case of a 35-year-old woman dissatisfied with her mammary gland shape and size. She was admitted for a planned periareolar mastopexy with simultaneous breast augmentation with implants. She had breastfed 2 years before admission. In the postlactation period, she noted a decrease in the volume of the mammary glands, decreased skin turgor, increased diameter, and ptosis of the nipple-areolar complex. Preoperative laboratory and imaging workup were unremarkable (complete blood count, coagulation panel, immunoserological tests for syphilis, HIV, hepatitis B and C, breast ultrasound, chest computed tomography, and comprehensive metabolic panel). She did not report history of any infectious diseases. We performed periareolar mastopexy with simultaneous dual-plane breast augmentation by Tebbetts¹ with textured anatomical implants. After infiltration of a periareolar area, skin around the areola was deepidermized. The mammary gland tissue was bluntly and sharply separated from the pectoralis major muscle to the level of the nipple-areola complex. The sternocostal part of the pectoralis major muscle

was cut up to the level of the fourth intercostal space. A submuscular pocket was formed up to the level of the second rib, medially to the parasternal line, downward to the inframammary fold, and laterally to the anterior axillary line. Mentor 313–310 mL implants with high profile were inserted into the formed pocket. Active drains were placed in the area of the inframammary fold. Subcutaneous tissue was sutured with ETHICON 2.0 Vicryl polyglactin. Covidien 2.0 Novafil (monofilament Polybutester) was used for interlocking areolar sutures, and ETHICON 5.0 Prolene polypropylene was used for simple interrupted sutures. Aseptic dressings were applied on the wounds. Compression bra was put on (Fig. 1).

The drains were removed 24 hours postoperatively, and patient was discharged under the outpatient supervision of a plastic surgeon. On the ninth day of the postoperative period, the patient noted the appearance of a maculopapular and vesicular rash on her trunk (Fig. 2). During a consultation with an infectious disease specialist, the patient revealed that she had never had chickenpox or received vaccination. She also reported direct contact with her chickenpox-infected children before admission. As a result of the consultation, she was diagnosed with chickenpox. She was prescribed 500 mg of acyclovir with topical antiseptic solution to be applied directly on the rash.

Despite the treatment and regression of the skin rash, upon the suture removal on the 14th day after the surgery, no signs of adhesion of the wound edges were observed (Fig. 3). A daily wound dressing regimen with debridement was initiated. Furthermore, to process the surgical site, 3% hydrogen peroxide, chlorhexidine, and topical digestol and levomekol ointment were used. Swab test did not detect any bacterial contamination. On the 25th day,

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Fig. 1. Nipple-areolar complex, postoperative with no signs of blood circulation disturbance.



Fig. 3. Fourteenth day postoperatively after the debridement.



Fig. 2. Varicella rash on the patient's trunk.

maximal dehiscence of the wound edges was noted. On the 35th day, the patient underwent surgery. The pocket was rinsed with Lavasept solution, the implant was reinserted, and secondary sutures were applied. With regular wound debridement, dressing change, and application of above-mentioned ointments, the wound cleared gradually.

After the treatment and removal of secondary sutures, mild scarring and deformation of areoles were noted (Fig. 4).

DISCUSSION

Varicella-zoster virus (VZV) is a highly contagious virus that belongs to Herpesviridae family. The route of transmission is airborne droplets, direct skin contact with VZV-contaminated vesicle fluid, or through placenta. Primary infection causes chickenpox, whereas reactivation of latent infection in adults causes shingles.² Once the primary infection has resolved, the virus resides in the dorsal root and the trigeminal ganglion.³⁻⁵

The incubation period for primary varicella is approximately 2 weeks in children and up to 3 weeks in adults.² Initially, chickenpox manifests itself with prodromal symptoms, such as fever, weakness, and loss of appetite followed by characteristic exanthem.⁶ Once it enters the mucous membrane of the upper respiratory tract, it penetrates the tonsillar lymph nodes, and only then, it is detected by cellular immunity. Eventually, the viral particles reach the outer skin layer, where characteristic vesicles develop. Usually, the disease resolves within 7–10 days on average. People with a reduced immune status may develop complications, such as pneumonia, secondary bacterial infection, acute neurological disorders (encephalitis), coagulopathy, and even death.^{7,8}

While this patient's case might be coincidental, the onset of VZV in an operated-on patient suggests a causal relationship. VZV can significantly affect the wound-healing process by reducing the body's immune response, and increase the risk of secondary bacterial infection, especially in the acute phase of the disease. Any type of surgical intervention leads



Fig. 4. Six months after augmentation mammoplasty with peri-areolar mastopexy.

to an immunosuppressive state, thus contributing to deterioration of healing process associated with varicella. Previous reports reveal varicella-zoster interfering with the wound-healing process in patients with burns, leading to sepsis in some cases.^{9,10}

Some patients eager to undergo plastic surgery may leave out, forget, or deny details of their history of infectious diseases. Moreover, many surgeons do not routinely ask about varicella infection. It is important to obtain a complete and thorough history of past infections and recent exposure to an infection when evaluating a possible candidate for plastic surgery.

CONCLUSIONS

This case demonstrates the significant effect of VZV on the wound-healing process after augmentation

mammoplasty. Acute infection diminishes the body's immune response, increases the risk of secondary bacterial infection, complicates the process of wound healing, and leads to aesthetic deformities. We recommend taking a detailed history of infectious diseases and being aware of the possibility of chickenpox occurring in adult patients who had recently undergone plastic surgery to be able recognize it, test for it, and treat it promptly and appropriately.

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PATIENT CONSENT

The patient provided her written informed consent to participate in this study.

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