



Contents lists available at ScienceDirect

International Journal of Surgery Case Reports

journal homepage: www.casereports.com

Breast implant extrusion related to Herpesviridae



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ARTICLE INFO

Article history:

Received 1 April 2015

Accepted 27 June 2015

Available online 17 August 2015

ABSTRACT

INTRODUCTION: We present a case of wound dehiscence in a patient with clinical features of herpes zoster.

PRESENTATION OF CASE: A 44 year old woman, with a history of recurrent herpes zoster infection, presented to the accident and emergency department with the extrusion of a left sided tear-drop shaped euro-silicone breast implant from an old surgical scar. A month prior to admission, this patient had developed unilateral crops of vesicles along the surgical scar which was apposing her left infra-mammary fold. This was preceded by fatigue and neuralgia. Histology revealed acute inflammation related to a probable Herpesviridae infection.

DISCUSSION: In this report we discuss the first case of a viral infection predisposing to a wound dehiscence occurring in an old surgical scar.

CONCLUSION: This case report illustrates the real but rare possibility of recurrent herpes zoster causing gradual thinning of an old surgical scar. This resulted in an extrusion of the underlying breast implant.

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1. Introduction

Herpes zoster is a medical condition caused by the reactivation of varicella zoster virus (VZV). It typically affects older people who are immunocompromised and is associated with well documented complications. These include post herpetic neuralgia, secondary bacterial infection and ophthalmological sequelae. We discuss the case of a female patient with a history of recurrent herpes zoster who developed the classic vesicular rash over the dermatome which incorporated a surgical scar. This subsequently resulted in wound dehiscence and extrusion of the underlying breast implant. To our knowledge this is the first reported case of this complication. We believe that this case report will add to our understanding of late surgical site infection and potential complications associated with herpesviridae infections.

2. Case presentation

A 44 year old woman presented to the accident and emergency department and was found to have extrusion of a left breast tear shaped implant through an old infra-mammary surgical scar. The patient had undergone an equalization breast augmentation 8 years ago in Prague. A month prior to her presentation, she had developed a recurrent attack of herpes zoster involving the left

breast infra-mammary fold. This resulted in the formation of vesicles within the surgical scar, followed by a gradual thinning of the overlying skin. Two areas of skin subsequently broke down initially causing a serosanguinous discharge. Complete dehiscence of the scar occurred despite taking acyclovir since the start of the herpes zoster. She had a number of comorbidities, including maturity onset diabetes of the young (MODY), fibromyalgia, and recurrent episodes of herpes zoster. Despite being vaccinated for the latter condition, she experienced an average of three episodes of relapse per year. She had also been placed on a suppressive dose of valacyclovir by the consultant clinical immunologist. This had initially resulted in a decrease in the frequency of attacks. However, the episodes had increased over the last 12 months. These acute relapses were treated with acyclovir. To date no cause for the recurrences has been identified.

On examination of the breasts, an eight centimeter wound was noted within the left infra-mammary fold, which was erythematous, tender and associated with purulent discharge (Fig. 1). The implant was clearly visible, extruding through the old scar. It was encased in a calcified coating (Fig. 1). Blood tests revealed raised inflammatory markers. A moderate growth of staphylococcus aureus was found on the wound culture.

Given the extent of this protrusion, the patient was promptly transferred to the care of the breast team. She underwent surgery to remove the implant. This procedure involved removal of the implant from its sub-glandular position, saline irrigation of the cavity, and excision of the skin infected with the herpes zoster (Fig. 2). The skin was closed with interrupted mattress prolene sutures which were removed 10 days later. Post-operative histol-

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Fig. 1. Extrusion of the implant.



Fig. 2. Implant after removal.

ogy of the excised skin cited: 'extensive inflammation of the skin and subcutaneous tissue with ulceration probably related to herpes zoster'.

Post-operatively, the patient was commenced on a course of anti-viral medication and antibiotics. She was placed under regular follow up with the breast team. Unfortunately, eight months later, the patient attended the breast care unit with a similar presentation affecting the contralateral breast implant. The right breast implant was also removed surgically. She has since been discharged as she experienced no further problems.

3. Discussion

This report presents the first documented case of a breast prosthesis extrusion and wound dehiscence as a complication of repeated herpes zoster infection. In this case, herpesviridae is implicated. The patient's past history and clinical features suggest herpes zoster [1].

The risk of dehiscence of a wound is affected by a number of factors including infection, hematoma formation, or poor surgical technique [2]. It is compounded by several risk factors such as smoking, prolonged steroid use and age [2]. Interestingly, there are a number of publications outlining a causal relation between

herpes simplex virus and post-operative infection. Herpes simplex virus has been identified in a total hip arthroscopy [3] and free radial forearm flap site [4]. To date, there are no reported cases of this phenomenon occurring in well healed scars or in association with herpes zoster. The only previously reported cases alluding to scar involvement in herpes zoster is that of cutaneous sarcoidosis infiltrating healed vesicular scars [5].

Herpes zoster is a condition caused by the reactivation of varicella zoster virus. The incidence worldwide is 1.2–3.4/1000. Long term population studies suggest this infection is likely to increase to 3.9–11.8/1000 in patients over the age of 65 year [6,7]. Herpes zoster typically presents with non-specific prodromal symptoms of burning, itching or paresthesia followed by a vesicular rash confined to a specific unilateral dermatome.

It is interesting in this case that despite being thoroughly investigated by her clinical Immunologist, no identifiable cause could be identified as a reason for her having recurrent attacks of herpes zoster. There is a possibility that her co-morbidities could have predisposed her to an increased risk of recurrence and wound breakdown. It is well understood that the incidence of herpes zoster increases with both age and in immunocompromised states [1,6]. A study by Rimland and Moanna [8] suggested that there is an increase in the incidence of herpes zoster beyond the age of 40 years [8]. Additionally, a history of diabetes has been associated with an increased incidence of herpes zoster [9], this is associated with reduced levels of varicella zoster virus-specific cell mediated immunity [10]. Furthermore, diabetes is a known predisposing factor for infection [11]. Thus, diabetes may have contributed to both herpes zoster recurrence and a higher incidence of complications. Finally, the presence of a breast prosthesis carries with it a real though low risk of secondary infection. In an observational study looking at 10,941 patients with breast implants, it was observed that infection rates were 0.8%. A number of cases occurred months and even years later. It was noted that these cases were associated with distant foci of infection [12]. These findings suggest that there is benefit in the early detection and prompt treatment of patients with breast prostheses who develop infections with a potential for haematogenous spread.

This leads us to question whether extra vigilance is needed for recurrent herpes zoster in this population. In the acute setting, herpes zoster treatment is reserved for immunocompromised patients, non-immunocompromised patients who are over the age of 50 and those having severe manifestations or complications of the disease [13]. The main stay of treatment is with oral antivirals and analgesia, but there is no consensus for the use of steroids, opioids, NSAIDs and tricyclic antidepressants in managing the complications; this is particularly in the elderly [13].

At present, strategies for the prevention of both first and recurrent episodes of herpes zoster remain unclear. Currently, there is evidence to support the use of a zoster vaccine (zostavax) in preventing these attacks in the elderly population [14,15]. In 2008, the Advisory Committee on Immunization Practice (ACIP) recommended the use of zostavax in patients aged 60 and older [14]. The Food and Drug Administration (FDA) extended this guideline in 2011 to include patients aged 50 years or older [16,17]. ACIP, however, have not supported this and maintain the use of zostavax for patients aged 60 years or older only [16]. In our case report, our 44 years old patient had received the varicella zoster vaccine and yet recurrences were not prevented. This could have been related to her age or her co-morbidities.

This case highlights a need for more research to be conducted regarding strategies to prevent herpes zoster recurrence in predisposed individuals, especially in the younger population.

4. Conclusion

The case demonstrates the real but rare risk of herpes zoster infection of the dermatome of a scar above a prosthesis resulting in dehiscence and subsequent extrusion of the breast implant.

Conflict of interest

Nothing to declare.

Funding

Nothing to declare.

Ethical approval

Not required.

Consent

Consent has been taken of the patient.

Authors contribution

Darmiga Thayabaran: Involved in primarily writing up the article.

Abrar Saiyed: Involved in collecting the details of the case history.

Antia M. Huws: Proof reading the article.

Saira Khawaja: Designing the case report and writing up the discussion of the article.

Simon Holt: Finalizing the draft of the article.

Guarantor

Darmiga Thayabaran and Saira Khawaja accept full responsibility for the work and conduct of the study.

Acknowledgement

The authors would like to thank Dr. Leonid Semkin for his input in confirming the histological diagnosis of herpes zoster.

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