CASE REPORT

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Herpes Zoster of the Nipple: A Rare Diagnostic Challenge

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ABSTRACT

The breast constitutes an essential component of a woman's identity, body image, and self-esteem. The objective of this article is to present a rare case of breast skin pathology and to examine its differential diagnosis. A fifty-year-old woman consulted our department for a burning sensation in her right breast in combination with a rash involving the nipple-areola complex. The patient received treatment for evolving bacterial mastitis; however, a zosteriform vesicular rash subsequently developed over the right scapular region. The diagnosis of varicella zoster virus infection was confirmed, and oral medication was adjusted to antivirals, resulting in progressive reduction of the rash. To the best of our knowledge, reports on herpes zoster involving the nipple are scarce in the literature. This article presents such an atypical manifestation, underscoring the importance of including herpes zoster in the differential diagnosis of nipple-areolar complex lesions, and provides a brief review of the relevant literature.

Keywords: Herpes zoster; breast disease; nipple; diagnosis; differential

KEY POINTS

- Breast skin, areola, and nipple may present with malignant, inflammatory, infectious, or traumatic lesions.
- Varicella zoster virus may involve the nipple-areola complex mimicking inflammatory or malignant breast conditions and creating a diagnostic challenge.
- Awareness of this presentation prevents unnecessary invasive procedures and enables timely antiviral treatment.

Introduction

A wide spectrum of dermatological conditions can affect the skin of the breast, nipple, and areola. This article reports an uncommon case of herpes zoster involving the nipple-areola complex. Varicella zoster virus (VZV) establishes latency in the dorsal root ganglia of the spinal cord after primary infection in childhood. Its reactivation can manifest as a distressing blistering rash, typically involving one to three adjacent dermatomes, most often the thoracic segments (1). However, involvement of the nipple-areola complex has rarely been documented. Such presentations may be misinterpreted as inflammatory, infectious, or neoplastic breast conditions, potentially resulting to unnecessary interventions or delayed initiation of antiviral therapy.

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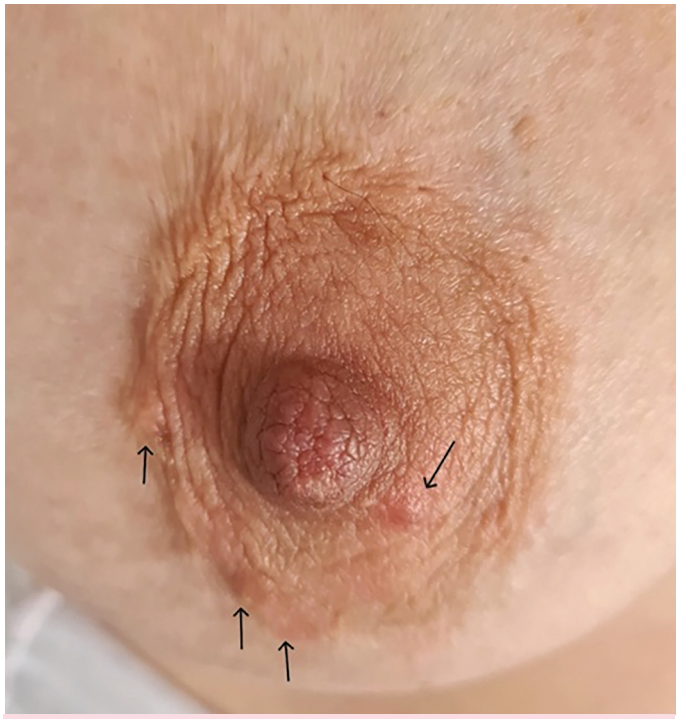

Figure 1. The patient presented with a painful, oedematous nipple. On examination, several evolving vesicles were noted near the nipple and along the lateral semicircular margin of the areola

Case Presentation

A nulliparous 50-year-old woman presented to our department with a burning sensation involving the right breast, which was more intense in the nipple-areola complex and was accompanied by distressing back pain. This clinical presentation commenced three days prior to consultation. The patient reported undergoing yearly breast checkups due to a family history of breast cancer and noted a personal history of mastitis two years earlier. The only chronic conditions mentioned were Hashimoto's thyroiditis and hypercholesterolemia, both managed with medication. The patient disclosed ongoing tobacco use. On clinical examination, the right breast was tender, and the nipple appeared oedematous. Several small vesicular lesions were observed in the areola (Figure 1). Breast ultrasonography revealed no abnormalities. Due to the clinical concern for evolving mastitis, and considering the patient's prior history of the condition and ongoing tobacco use, empirical antibiotic therapy was initiated. Two days later, a vesicular rash developed on the patient's back, following a zosteriform distribution that extended toward but did not involve the right breast (Figure 2). The patient reported childhood varicella infection and had not been vaccinated against herpes zoster. Initial antibiotic therapy was discontinued, and the treatment was altered to include oral valaciclovir for antiviral coverage and gabapentin for pain management. Both the scapular and breast lesions showed clinical improvement shortly after the initiation of antiviral therapy. The rash on the back resolved within ten days; however, the lesion on the breast (Figure 3) persisted for over thirty days before complete resolution.

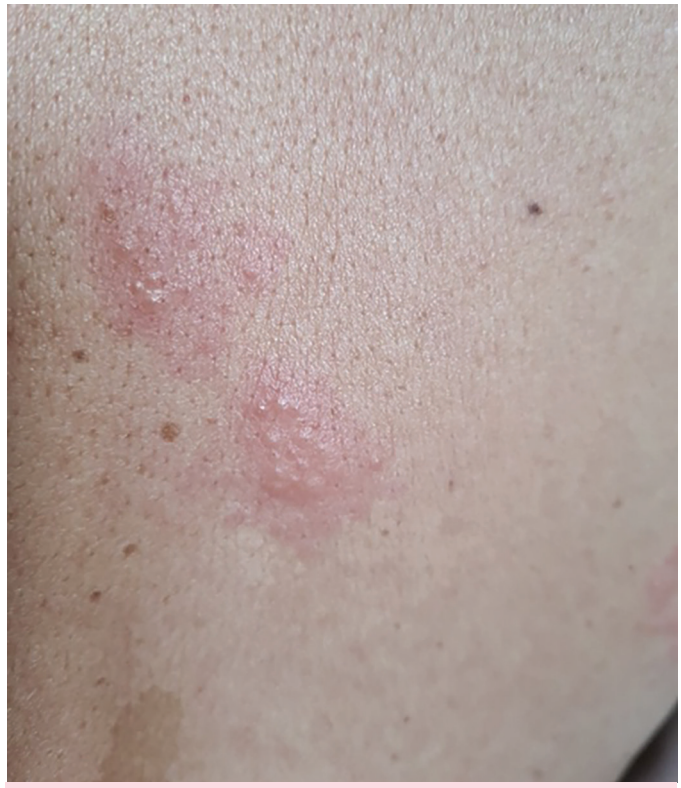

Figure 2. A few days after the initial presentation, the appearance of a vesicular rash on the right side of the back prompted a revision of the diagnosis

Informed consent was obtained from the patient for publication of this case report and accompanying images.

Discussion and Conclusion

Breast skin disorders encompass a spectrum of presentations, from localized dermatologic lesions to systemic manifestations. As defined by Deluca et al. (2), breast dermatosis may be classified as a proliferative disease, benign or malignant, or as an inflammatory condition, infectious or non-infectious. Considering this case, an appropriate differential diagnosis included bacterial or viral mastitis, contact dermatitis, and malignant conditions such as Paget's disease of the nipple which often mimics persistent eczematous changes of the nipple-areolar complex (3).

The presence of tender nipple oedema, in conjunction with the patient's medical history and tobacco use, supported the diagnosis of evolving bacterial mastitis. A concerning aspect was that the reported pain was disproportionate to the patient's clinical presentation. The subsequent appearance of the rash on the back provided a diagnostic clue suggestive of VZV infection; however, the characteristic progression along a continuous

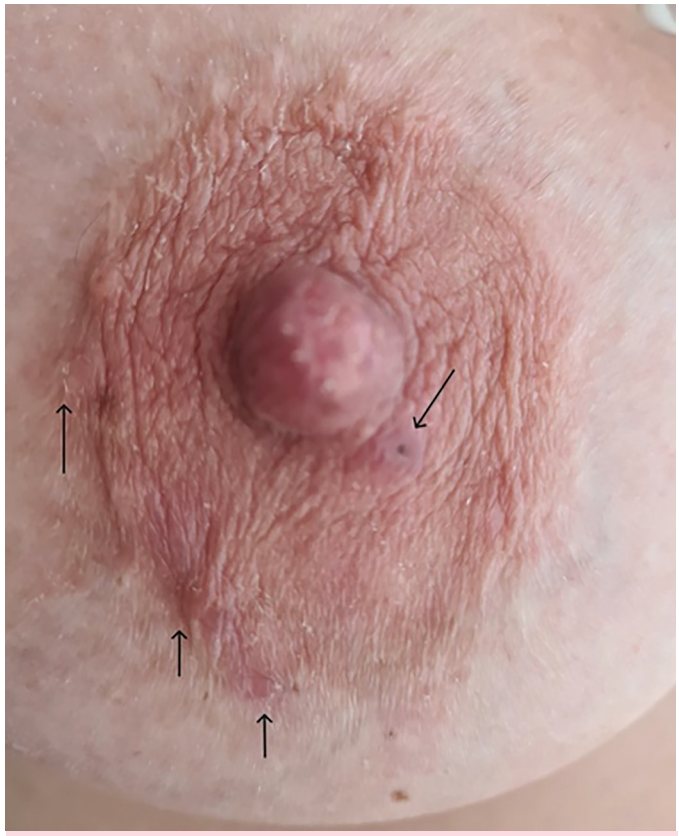

Figure 3. Two weeks later, following initiation of appropriate treatment, both nipple and back rashes followed the expected course of herpes zoster, accompanied by resolution of pain

dermatome was absent, as the rash did not extend to the breast. The clinical improvement of both lesions following initiation of antiviral medication corroborated the diagnosis of herpes zoster.

Regarding viral breast infections, herpes simplex virus can affect the nipple-areola complex (4), whereas VZV usually spares this site. A review of the literature identified only four reported cases of VZV infection of the breast with vesicular eruption involving the nipple-areola complex (5-8). Mathers et al. (5) described a case of herpes zoster presenting typically along the left T4 dermatome, extending from the back to the nipple, which was implicated in the onset of a breastfeeding strike. In contrast, Watanabe et al. (6) reported a case involving a young male patient with VZV infection localized exclusively to the nipple, notably occurring in the absence of the characteristic zosteriform rash. Sütcüoğlu and Özdemir (7) presented a case of a female patient undergoing chemotherapy for metastatic breast cancer, who developed herpes zoster with maculopapular and vesicular lesions involving the left breast and the nipple-areola complex. The diagnostic trajectory outlined by Alonso García et al. (8) closely parallels the present case, in which an initial clinical impression of bacterial mastitis was ultimately revised to be herpes zoster affecting the breast. Collectively, these cases underscore the potential for VZV to affect the nipple-areolar complex and impact related functional activities, such as breastfeeding.

In conclusion, the present report highlights the importance of considering herpes zoster in the differential diagnosis of localized nipple-areolar lesions, particularly when accompanied by neuropathic pain in a dermatomal pattern. Clinicians should remain mindful of the emotional, sexual, and aesthetic significance of the breast, areola, and nipple skin. Careful clinical evaluation and a sensitive approach are essential for the accurate diagnosis and effective management of conditions affecting this region.

Ethics

Informed Consent: Informed consent was obtained from the patient for publication of this case report and accompanying images.

Footnotes

Authorship Contributions

Surgical and Medical Pracites: E.L., G.,K., Z.A., D.V., T.P., M.G., M.K.A.; Concept: E E.L.; Design: E.L.; Data Collection and/or Processing: E.L., G.,K., Z.A., D.V., T.P., M.G., M.K.A.; Analysis and/or Interpretation: E.L., G.,K., Z.A., D.V., T.P., M.G., M.K.A.; Literature Search: E.L., G.,K., Z.A., D.V., T.P., M.G., M.K.A.; Writing: E.L., D.V.

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