Acta Biomed 2025; Vol. 96, N. 6: 16953 DOI: 10.23750/abm.v96i6.16953

Herpes Zoster Ophthalmicus post-botox injection

Lenah H. Almarzouk[1], *Serene R. Almuhaidib*[1], *Salma S. Alshammasi*[2], *Raghda S. Qasim*[1], *Maha A. Aldayel*[1]

[1]Department of Dermatology, Dammam Medical Complex, Dammam, Saudi Arabia; [2]Department of Dermatology, Eastern Health Cluster, Dammam, Saudi Arabia

To the Editor,

Botulinum toxin type A (BoNT-A) injections commonly used for both medical and cosmetic purposes are generally classified as low-risk procedures. However, unexpected complications can occur. We wish to share a case of Herpes Zoster Ophthalmicus (HZO) that developed shortly after a BoNT-A injection, suggesting a potential link between BoNT-A and varicella-zoster virus (VZV) reactivation. A 40-year-old medically free woman presented to our dermatology clinic with a burning sensation over the right forehead, extending around the right eye and temporal scalp. Symptoms began five days following a cosmetic BoNT-A injection. Initial treatment with azithromycin and ibuprofen provided no relief. On examination, we observed an erythematous, edematous plaque with crusting localized to the ophthalmic branch of the trigeminal nerve (Figure 1). The diagnosis of HZO was made clinically, and she was promptly started on oral acyclovir (800 mg, five times daily) alongside topical acyclovir cream. A follow-up visit seven days later showed marked improvement, with resolution of symptoms and no further complaints.

HZO is caused by reactivation of latent VZV within the ophthalmic division of the trigeminal nerve, often presenting with dermatological and potentially sight-threatening ocular symptoms (1). While virus reactivation is classically associated with advanced age or immunosuppression (2), stressors such as local trauma or certain medical interventions have been proposed as triggers (3). BoNT-A, although generally well tolerated, has recently been associated with cases of HZO and other VZV reactivations (4,5). In our patient, there were no known risk factors such as immunosuppression, systemic illness, or recent infections. The onset of symptoms shortly after BoNT-A administration raises suspicion of a potential association, consistent with similarly observed patterns in previously documented cases. Gadient et al. (4) reported HZO in a 72-year-old woman following BoNT-A injections for chronic migraine, and de Souza et al. (5) described a similar case in a 43-year-old healthy woman after cosmetic treatment in the upper face. Moreover, Farahmand et al. (6) documented a case of HZO with encephalitis post-BoNT-A injection for blepharospasm, emphasizing the potential seriousness of such reactivations. The mechanism remains unclear. Some theories suggest that injection-induced trauma or neurotoxic effects of BoNT-A may compromise neuronal integrity, creating conditions favorable for viral reactivation (4). While causality cannot be confirmed from isolated cases, the repeated emergence of this pattern is noteworthy and warrants further investigation. We believe this case reinforces the need for awareness among clinicians regarding rare but significant complications following BoNT-A injections. Early recognition and prompt antiviral treatment, as seen in this case, are crucial to prevent complications such as ocular damage or postherpetic neuralgia. While BoNT-A remains a valuable therapeutic tool, careful post-procedural monitoring and patient education about early warning signs may further reduce associated risks.

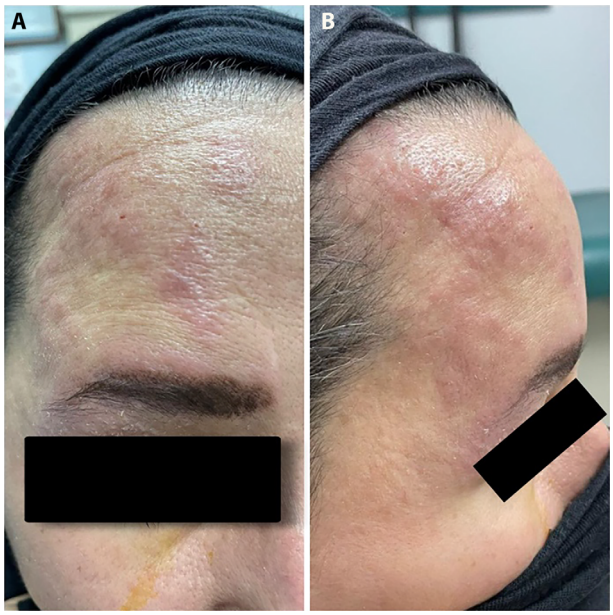

Figure 1. Edematous and erythematous plaque with crustation over the ophthalmic dermatome.

Conflict of Interest Statement: Each author declares that he or she has no commercial associations (e.g. consultancies, stock ownership, equity interest, patent/ licensing arrangement etc.) that might pose a conflict of interest in connection with the submitted article.

Author Contributions Statement: All authors confirm contributing to the paper including writing, analyzing reviewing the results and approved the final version of the manuscript.

Declaration on the Use of AI: None.

Statement of Ethics and Informed Consent: Written informed consent was obtained and signed by the patient for publication of this case report, including photographs and medical data. Institutional ethical approval was not required to publish this case report.

References

1. Kovacevic J, Samia AM, Shah A, Motaparthi K. Herpes zoster ophthalmicus. Clin Dermatol. 2024;42(4):355–9. doi:10.1016/j.clindermatol.2024.01.007.
2. Bowsher D. Pathophysiology of postherpetic neuralgia: towards a rational treatment. Neurology. 1995 Dec;45 (12 Suppl 8):S56-7. doi: 10.1212/wnl.45.12_suppl_8.s56.
3. Schmidt SAJ, Sørensen HT, Langan SM, Vestergaard M. Perceived psychological stress and risk of herpes zoster: a nationwide population-based cohort study. Br J Dermatol. 2021;185(1):130–8. doi:10.1111/bjd.19832.
4. Gadient PM, Smith JH, Ryan SJ. Herpes zoster ophthalmicus following onabotulinumtoxinA administration for chronic migraine: a case report and literature review. Cephalalgia. 2015;35(5):443–8. doi:10.1177/0333102414544974.
5. de Souza MB, Issa MCA, dos Santos Lima C, Góes HFO, Mattos A. Herpes-zóster oftálmico após injeção de onabotulinotoxina para tratamento cosmético: relato de caso. Surg Cosmet Dermatol. 2017;9(3):261–4. [Portuguese]. doi:10.5935/scd1984-8773.201793840.
6. Farahmand G, Magrouni H, Zolfaghari V, Gharehjeh S. Herpes zoster ophthalmicus and encephalitis following botulinum toxin type A injection for blepharospasm: a case report. Case Rep Clin Pract. 2022;7(2):58–60. doi:10.18502/crcp.v7i2.10782.

Correspondence:
Received: 8 March 2025
Accepted: 22 April 2025
Salma S. Alshammasi, MBBS
Dermatology Department, Eastern Health Cluster, Dammam, Saudi Arabia
3202 Albalsam Street, Eastern Province, Saudi Arabia
E-mail: salmashammasi@gmail.com
ORCID: 0009-0002-5195-0500