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Oral and cutaneous manifestations of *Erythema Multiforme* related to the use of oxcarbazepine in a patient with epilepsy: A case report

Manifestações orais e cutâneas do *Eritema Multiforme* relacionadas ao uso de oxcarbazepina em paciente com epilepsia: Relato de caso

Manifestaciones orales y cutâneas del *Eritema Multiforme* relacionadas con el uso de oxcarbazepina en una paciente con epilepsia: Reporte de caso

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Abstract
Oxcarbazepine is an anticonvulsant widely used in the treatment of epilepsy; however, it may be associated with mucocutaneous adverse reactions, such as erythema multiforme. This study aims to report a case of erythema multiforme major with oral and cutaneous manifestations associated with oxcarbazepine use in a young patient with epilepsy and neuropsychomotor impairment. A 25-year-old female patient, under continuous oxcarbazepine therapy for more than ten years, presented recurrent episodes of vesiculobullous and ulcerative lesions in the oral cavity, preceding cutaneous lesions on the palmar surface of the hands. Extensive laboratory investigations revealed no significant abnormalities. Lesion remission was observed after discontinuation of oxcarbazepine, with recurrence following drug reintroduction, establishing a causal relationship. Drug replacement combined with systemic and topical corticosteroid therapy resulted in complete lesion resolution. The diagnosis of erythema multiforme was based on clinical features and disease progression. This case highlights the importance of recognizing oral manifestations as early indicators of adverse drug reactions and emphasizes the role of dental professionals in multidisciplinary patient care.
Keywords: *Erythema multiforme*; Oxcarbazepine; Oral medicine; Epilepsy; Adverse drug reactions.

Resumo
A oxcarbazepina é um anticonvulsivante amplamente utilizado no tratamento da epilepsia, porém pode estar associada a reações adversas mucocutâneas, como o eritema multiforme. O presente trabalho tem como objetivo relatar um caso

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de eritema multiforme maior com manifestações orais e cutâneas associado ao uso de oxcarbazepina em uma paciente jovem com epilepsia e comprometimento neuropsicomotor. Paciente do sexo feminino, 25 anos, em uso contínuo de oxcarbazepina há mais de dez anos, apresentou episódios recorrentes de lesões vesicobolhosas e ulceradas na cavidade oral, precedendo lesões cutâneas em região palmar. Após extensa investigação laboratorial sem achados significativos, observou-se regressão das lesões com a suspensão da oxcarbazepina e recidiva após sua reintrodução, estabelecendo a relação causal. A substituição do fármaco, associada ao uso de corticosteroides sistêmicos e tópicos, resultou em remissão completa das lesões. O diagnóstico de eritema multiforme foi baseado nos achados clínicos e na evolução do quadro. O caso ressalta a importância do reconhecimento das manifestações orais como sinais precoces de reações adversas medicamentosas e do cirurgião-dentista na abordagem multidisciplinar desses pacientes.
Palavras-chave: *Eritema multiforme*; Oxcarbazepina; Estomatologia; Epilepsia; Reações adversas a medicamentos.

Resumen
La oxcarbazepina es un anticonvulsivante ampliamente utilizado en el tratamiento de la epilepsia; sin embargo, puede asociarse a reacciones adversas mucocutáneas, como el eritema multiforme. El objetivo de este estudio es reportar un caso de eritema multiforme mayor con manifestaciones orales y cutáneas asociado al uso de oxcarbazepina en una paciente joven con epilepsia y compromiso neuropsicomotor. Paciente de sexo femenino, de 25 años, en uso continuo de oxcarbazepina por más de diez años, presentó episodios recurrentes de lesiones vesiculobullosas y ulceradas en la cavidad oral, que precedieron lesiones cutáneas en la región palmar. Tras una amplia investigación de laboratorio sin hallazgos relevantes, se observó regresión de las lesiones tras la suspensión del fármaco y recurrencia luego de su reintroducción, estableciendo la relación causal. La sustitución del medicamento, asociada al uso de corticosteroides sistémicos y tópicos, resultó en la remisión completa de las lesiones. El diagnóstico de eritema multiforme se basó en los hallazgos clínicos y la evolución del cuadro. El caso destaca la importancia del reconocimiento de las manifestaciones orales como signos tempranos de reacciones adversas a medicamentos y el papel del odontólogo en el abordaje multidisciplinario.
Palabras clave: *Eritema multiforme*; Oxcarbazepina; Medicina oral; Epilepsia; Reacciones adversas a medicamentos.

1. Introduction

Epilepsy is a chronic neurological disorder characterized by a persistent predisposition to generate epileptic seizures, associated with neurobiological, cognitive, psychological, and social consequences (Fisher et al., 2014; International League Against Epilepsy [ILAE], 2022). It affects approximately 50 million people worldwide and represents a significant public health burden, requiring long-term pharmacological management in most patients (Brodie et al., 2022). Antiseizure medications (ASMs) remain the cornerstone of epilepsy treatment, with drug selection guided by seizure type, patient age, comorbidities, adverse effect profile, and individual response (Löscher et al., 2023). Despite advances in pharmacotherapy, approximately 30% of patients develop drug-resistant epilepsy, highlighting the importance of individualized and evidence-based treatment strategies (Ghosh et al., 2024).

Oxcarbazepine (OXC), a 10-keto analog of carbamazepine, is widely prescribed for focal-onset seizures in both adults and children. Its favorable pharmacokinetic profile and lower potential for drug–drug interactions compared with carbamazepine have contributed to its broad clinical use (Phelps & Wheless, 2005; Perucca & Johannessen Landmark, 2022). OXC acts primarily by blocking voltage-gated sodium channels, stabilizing neuronal membranes, and reducing excitatory neurotransmission (Patsalos & Szaflarski, 2023). Although generally well tolerated, OXC has been associated with adverse effects, including hyponatremia and cutaneous adverse drug reactions, which may range from mild eruptions to severe immune-mediated mucocutaneous disorders (Fang & Gong, 2015; Chen et al., 2023). Among these reactions, erythema multiforme (EM) represents a clinically significant condition that may pose diagnostic and therapeutic challenges, particularly when involving the oral mucosa (Lerch et al., 2018; Mendez-Flores & Palafox-Romo, 2024).

Erythema multiforme is an acute hypersensitivity reaction characterized by target lesions and, in more severe forms, mucosal involvement. Although infection, especially herpes simplex virus, are the most common triggers, medications such as anticonvulsants have been implicated as etiological factors (Samim et al., 2013; Vukičević Lazarević, 2024). Given the widespread use of OXC, recognition of its potential role in triggering EM is essential for early diagnosis and appropriate

management.

This study aims to report a case of erythema multiforme major with oral and cutaneous manifestations associated with oxcarbazepine use in a young patient with epilepsy and neuropsychomotor impairment.

2. Methodology

This is a qualitative and descriptive study (Santini, 2019; Nissen & Wynn, 2014), which was made as a case report (Dragnev & Wong, 2018). Data has been collected through medical records and figures. Literature has been selected to connect the results.

A case report is a kind of project that exposes patient characteristics, and compare it with literature to elucidate new treatment techniques. Authors such as Santini (2019) and Rosenthal (2006) explain how to conduct it. This article is endorsed by the Ethics Committee of Dr. Cármino Caricchio Hospital (São Paulo, Brazil), and it respects the guidelines and principles of CNS Resolution 466/2012, the CONEP 2018 letter and the Declaration of Helsinki. An informed consent form has been signed by the patient, authorizing the use of data and images for academic use.

3. Results and Discussion

The clinical presentation observed in this case is consistent with erythema multiforme major, given the presence of extensive oral mucosal involvement and characteristic lesion morphology. EM remains a predominantly clinical diagnosis, and prompt identification of potential triggering factors—particularly recent medication exposure—is crucial to prevent disease progression (Sokumbi & Wetter, 2023; Trayes et al., 2022).

Antiseizure medications are among the drugs most frequently implicated in immune-mediated cutaneous adverse reactions. Although oxcarbazepine is considered safer than carbamazepine in terms of dermatological toxicity, reports of OXC-induced EM, Stevens–Johnson syndrome, and toxic epidermal necrolysis have been described in the literature (Yan et al., 2023; Chen et al., 2023). This reinforces the need for vigilance, especially during the initial weeks of therapy.

Oral manifestations, such as hemorrhagic crusting of the lips, erosions, and ulcerations, are hallmark features of erythema multiforme major and may significantly impair quality of life by limiting oral intake and communication (Ayangco & Rogers, 2003; Arduino & Porter, 2022). In the present case, the documentation of intact vesicles represents an uncommon but well-described early stage of disease evolution (Kohli & Kaur, 2011).

Management strategies for EM focus primarily on withdrawal of the offending agent and symptomatic support. The favorable clinical outcome observed aligns with existing evidence indicating that most cases resolve spontaneously within weeks following trigger removal (Lerch et al., 2018; Rezapour & Mesgarankarimi, 2025). Systemic corticosteroids remain controversial but may be justified in cases with extensive mucosal involvement, as supported by current clinical guidelines (Samim et al., 2013; Trayes et al., 2022).

Following discontinuation of oxcarbazepine, valproic acid was selected as an alternative ASM. This choice is supported by its broad-spectrum efficacy and distinct mechanism of action, which includes enhancement of gamma-aminobutyric acid (GABA)–mediated inhibition and modulation of ion channels (Puranik-Ghodke et al., 2013; Zhu et al., 2017). Individualization of therapy after adverse drug reactions is essential to maintain seizure control while minimizing the risk of recurrence.

4. Conclusion

The oxcarbazepine showed a direct relationship with the appearance of lesions. Thus, this case highlights the

importance of recognizing oral manifestations as early indicators of adverse drug reactions and emphasizes the role of dental professionals in multidisciplinary patient care.

References

Ayangco, L., & Rogers, R. (2003). Oral manifestations of erythema multiforme. Dermatologic Clinics, 21(1), 195–205. https://doi.org/10.1016/S0733-8635(02)00071-5

Arduino, P. G., & Porter, S. R. (2022). Oral manifestations of dermatologic diseases. Oral Diseases, 28(5), 1123–1134. https://doi.org/10.1111/odi.13974

Brodie, M. J., Kwan, P., & Perucca, E. (2022). Epilepsy in adults. The Lancet, 399(10325), 1087–1100. https://doi.org/10.1016/S0140-6736(21)01745-3

Chen, Z., Liew, D., & Kwan, P. (2023). Adverse effects of antiseizure medications: A systematic review. CNS Drugs, 37(2), 127–146. https://doi.org/10.1007/s40263-022-00950-7

Dragnev, N. C., & Wong, S. L. (2018). Do we CARE about the quality of case reports? A systematic assessment. The Journal of surgical research, 231, 428–433. https://doi.org/10.1016/j.jss.2018.07.027

Fang, S., & Gong, Z. C. (2015). Adverse effects of oxcarbazepine. Zhongguo Dang Dai Er Ke Za Zhi, 17(4), 414–419.
Fisher, R. S., Acevedo, C., Arzimanoglou, A., et al. (2014). Practical clinical definition of epilepsy. Epilepsia, 55(4), 475–482. https://doi.org/10.1111/epi.12550

Ghosh, S., Chatterjee, A., Sen, A., & Das, S. (2024). Risk of recurrence after a first unprovoked seizure with different risk factors: A 10-year prospective cohort study. Seizure, 118, 45–52. https://doi.org/10.1016/j.seizure.2024.09.018

International League Against Epilepsy. (2022). Definition and classification of epilepsy: 2022 update. Epilepsia, 63(8), 1811–1823. https://doi.org/10.1111/epi.17315

Kohli, P., & Kaur, J. (2011). Oral variant of erythema multiforme: Case report and literature review. Indian Journal of Otolaryngology and Head & Neck Surgery, 63(Suppl. 1), S9–S12. https://doi.org/10.1007/s12070-011-0184-4

Lerch, M., Mainetti, E. C., Beretta-Piccoli, B. T., & Harr, T. (2018). Current perspectives on erythema multiforme. Current Opinion in Allergy and Clinical Immunology, 18(4), 333–340. https://doi.org/10.1097/ACI.0000000000000450

Löscher, W., Klein, P., & Schmidt, D. (2023). Choosing the right antiepileptic drug: Evidence-based and patient-oriented treatment. The Lancet Neurology, 22(6), 510–522. https://doi.org/10.1016/S1474-4422(23)00074-1

Martinez, R. S., Richarte, D. M. A., Scabar, L. F., & Silva, R. F. (2010). Addressing current aspects of erythema multiforme and dentistry. Journal of Health Sciences Institute, 28(3), 251–254

Mendez-Flores, S., & Palafox-Romo, R. (2024). Cutaneous adverse drug reactions to antiepileptic drugs. Journal of Neurological Disorders & Stroke, 12(1), 1120–1128

Nissen, T., & Wynn, R. (2014). The clinical case report: a review of its merits and limitations. BMC research notes, 7, 264. https://doi.org/10.1186/1756-0500-7-264

Patsalos, P. N., & Szaflarski, J. P. (2023). Clinical pharmacology of oxcarbazepine and its active metabolite. Epilepsy & Behavior, 141, 109026. https://doi.org/10.1016/j.yebeh.2023.109026

Perucca, E., & Johannessen Landmark, C. (2022). Antiepileptic drugs: Mechanisms of action and pharmacokinetics. Epileptic Disorders, 24(1), 7–26. https://doi.org/10.1684/epd.2022.1427

Preuss, C. V., Randhawa, G., Wy, T. S., & Saadanadi, A. (2020). Oxcarbazepine. In StatPearls [Internet]. StatPearls Publishing.

Puranik-Ghodke, Y., Thorn, C. F., Lamba, J. K., et al. (2013). Valproic acid pathway: Pharmacokinetics and pharmacodynamics. Pharmacogenetics and Genomics, 23(4), 236–241. https://doi.org/10.1097/FPC.0b013e32835ea0b2

Rezapour, M., & Mesgarankarimi, A. (2025). Drug-induced erythema multiforme: A case-based review. Journal of Medical Case Reports, 19, 188. https://doi.org/10.1186/s13256-025-05209-y

Rosenthal D. I. (2006). What makes a case report publishable?. Skeletal radiology, 35(9), 627–628. https://doi.org/10.1007/s00256-006-0188-z

Samim, F., Auluck, A., Zed, C., & Williams, P. M. (2013). Erythema multiforme: A review of epidemiology, pathogenesis, clinical features, and treatment. Dental Clinics of North America, 57(4), 583–596. https://doi.org/10.1016/j.cden.2013.07.001

Santini, A. (2019). Spotlight on How to Structure a Case Report. The Journal of Critical Care Medicine,5(2), 76–79. https://doi.org/10.2478/jccm-2019-0007

Sokumbi, O., & Wetter, D. A. (2023). Clinical features, diagnosis, and treatment of erythema multiforme. Mayo Clinic Proceedings, 98(4), 645–656. https://doi.org/10.1016/j.mayocp.2022.10.020

Trayes, K. P., Love, G., & Studdiford, J. S. (2022). Erythema multiforme: Recognition and management. American Family Physician, 105(5), 525–532

Vukičević Lazarević, V. (2024). Erythema multiforme: Current concepts in pathogenesis and management. Exploratory Immunology, 4, 1003188. https://doi.org/10.37349/ei.2024.1003188

Yan, Q., Liu, X., Lei, H., Liu, R., & Hu, Y. (2023). Clinical features of oxcarbazepine-induced Stevens–Johnson syndrome and toxic epidermal necrolysis. Frontiers in Medicine, 10, 1232969. https://doi.org/10.3389/fmed.2023.1232969

Zhu, M.-M., Li, H.-L., & Shi, L.-H. (2017). The pharmacogenomics of valproic acid. Journal of Human Genetics, 62(11), 1009–1014. https://doi.org/10.1038/jhg.2017.87