

Beyond the Mouth: A Case of Recurrent Aphthous Ulcers Leading to the Diagnosis of Rheumatoid Arthritis

Pratikchhya Shrestha,¹ Sandhya Panthi,¹ Kanaklata Karn,¹ Jyoti Nepal¹

¹Department of Oral Medicine and Radiology, Kantipur Dental College Teaching Hospital and Research Center, Kathmandu, Nepal

Abstract



Recurrent aphthous ulcers are common oral lesions typically considered benign and self-limiting. However, persistent or treatment-resistant cases may be a sign of an underlying systemic condition. We report the case of a 38-year-old man with recurrent painful oral ulcers unresponsive to standard topical therapy. Upon further evaluation, he was found to have subtle joint symptoms and tested positive for rheumatoid factor and anti-cyclic citrullinated peptide antibodies, confirming a diagnosis of rheumatoid arthritis. Initiation of disease-modifying antirheumatic therapy led to resolution of both his mucosal and joint symptoms. This case underscores the importance of considering systemic autoimmune diseases in patients with chronic oral ulcers and highlights the potential role of oral findings as an early indicator of rheumatoid arthritis.

Keywords: Aphthous ulcers; Rheumatoid arthritis; Oral manifestations

Correspondence

Dr. Pratikchhya Shrestha, Department of Oral Medicine and Radiology, Kantipur Dental College Teaching Hospital and Research Center, Kathmandu, Nepal. E-mail: pratikchhya_s@hotmail.com, Phone: +9779841434336. Received Date: May 25, 2026, Accepted Date: June 12, 2026, Published Date: June 30, 2026.



DOI:

Introduction

Aphthous ulcers are one of the most common oral mucosal lesions, affecting from 5 to 25% of the general population [1]. The typical presentation of oral aphthous ulcers is a painful, circumscribed, fibrin-covered mucosal defect with a border that is hyperemic, and are often idiopathic, though they may be associated with local trauma, nutritional deficiencies, stress, or systemic diseases [2]. Rheumatoid arthritis (RA) is a chronic autoimmune disorder primarily affecting the joints, but it may also present with extra-articular manifestations, including mucosal, ocular, pulmonary, and cardiovascular involvement [3]. Oral manifestations in RA, such as xerostomia, temporomandibular joint dysfunction, periodontitis and mucosal ulcers, telangiectasia, are documented but often under-recognized or overlooked in early disease [4]. Although aphthous-like ulcers have been reported in patients with RA, they are rarely the presenting feature and are often misattributed to benign or local causes [5].

Here, we report a case where persistent aphthous ulcers were the initial manifestation of undiagnosed rheumatoid arthritis, highlighting the importance of considering systemic etiologies in patients with recurrent oral ulcers, especially when refractory to standard management.

Case Report

A 38-year-old man presented to the outpatient department with a 6-month history of painful, recurrent oral ulcers. The lesions predominantly affected the buccal and labial mucosa, appearing as round-to-oval ulcers with a yellowish base and an erythematous halo. Each episode lasted for 7–10 days and recurred within 1–2 weeks. The ulcers were associated with burning pain, significantly interfering with eating and speaking. He had been previously treated with topical corticosteroids and antiseptic mouthwashes which provided only transient relief.

On detailed questioning, the patient reported generalized fatigue and early morning stiffness of

the small joints of his hands, lasting more than 30 minutes. He had initially attributed these symptoms to routine daily activities. He denied fever, photosensitivity, genital ulcers, or gastrointestinal complaints. There was no relevant history of recent drug use, trauma, or known nutritional deficiencies. On examination, multiple shallow ulcers measuring 3–5 mm were observed on the labial mucosa and ventral surface of the tongue (Figure 1).

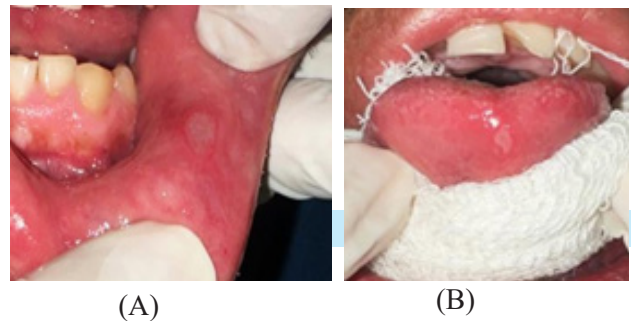


Figure 1. Multiple shallow ulcers on the (A) lower labial mucosa (B) ventral surface of the tongue

There was no cervical lymphadenopathy. Joint examination revealed mild tenderness over the metacarpophalangeal joints, without swelling or deformity. No cutaneous lesions, oral candidiasis, or salivary gland enlargement were noted.

Initial laboratory investigations revealed elevated erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP). Further immunological workup showed positive for both rheumatoid factor (RF) and anti-cyclic citrullinated peptide (anti-CCP) antibodies, thereby confirming the diagnosis of seropositive rheumatoid arthritis. The patient was then initiated on methotrexate, along with folic acid supplementation, after a physician consultation. Benzydamine mouthwash and topical gel containing chlorhexidine 1%, lignocaine 2% and metronidazole 1% was also advised for the symptomatic relief. This led to a marked improvement in joint-related symptoms as well as a noticeable reduction in the frequency of oral ulcers. The post-healing appearance of the ulcers on two-week follow-up visit is shown in (Figure 2).

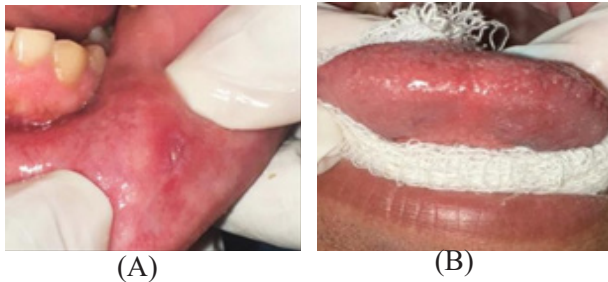


Figure 2. Healed ulcers on two-week follow-up (A) lower labial mucosa (B) ventral surface of the tongue

Discussions

Rheumatoid arthritis (RA) is classically described by its joint manifestations; however, extraarticular features are increasingly recognized and may even appear before joint involvement. Among these, oral mucosal involvement is often overlooked. Mucosal changes in RA are generally associated with xerostomia or secondary Sjögren's syndrome, but the presence of recurrent aphthous ulcers (RAU) is less commonly reported. A growing body of literature, however, suggests that RA can involve mucosal surfaces through immune-mediated mechanisms, often resembling other autoimmune conditions like lupus or Behçet's syndrome [5,6].

RAU is typically managed in dental and oral medicine clinics as an isolated mucosal disorder. However, when these ulcers are persistent, severe, or atypical in behavior, systemic associations should be considered [2]. In this patient, the ulcers had been recurring despite standard topical treatment, and their chronicity, combined with subtle systemic symptoms like fatigue, malaise, prompted further evaluation. This clinical vigilance helped in an early diagnosis of RA, allowing the timely initiation of disease-modifying therapy.

From a pathophysiological standpoint, the link between RAU and RA may be attributed to shared inflammatory pathways. Pro-inflammatory cytokines such as $\text{TNF-}\alpha$, $\text{IL-1}\beta$, and IL-6 are elevated in both conditions and contribute to tissue destruction and immune dysregulation [7].

Notably, a study by Mahdi et al. found significantly higher levels of salivary IL-8 in patients with RA-associated RAU compared to controls, suggesting localized immune activation within the oral mucosa in the setting of systemic inflammation [8].

The role of RAU as an early systemic clue has also been explored in epidemiological studies. A Korean population-based cohort study identified an increased incidence of autoimmune diseases, including RA, in individuals with recurrent aphthous ulcers, with an adjusted hazard ratio of 1:19 for RA development [9]. This statistical association strengthens the argument for oral lesions being a possible sentinel sign of systemic autoimmune activation.

Furthermore, oral mucosa may serve as a site of immune priming in susceptible individuals. Disruption of mucosal integrity, possibly via microbial dysbiosis or trauma, can trigger antigen presentation and subsequent systemic autoimmunity. This hypothesis is supported by studies demonstrating altered oral microbiota and elevated systemic autoantibodies in early RA, even before joint symptoms manifest [10].

Biologic therapies such as Etanercept and Adalimumab have shown promise in controlling severe RAU in patients with systemic autoimmune diseases, particularly when standard topical treatments fail [11]. These agents, by modulating cytokine pathways, not only control joint inflammation but may also reduce mucosal ulceration, providing a twofold therapeutic benefit. However, there are rare reports of biologic-induced paradoxical aphthous ulcers, further complicating the clinical picture [12].

Conclusions

This case highlights the importance of considering systemic autoimmune diseases, such as rheumatoid arthritis, in patients presenting with recurrent aphthous ulcers especially that are resistant to common methods of treatment. While oral ulcers are often benign and self-limiting, persistent or treatment-refractory cases warrant thorough evaluation. Early diagnosis of rheumatoid

arthritis through recognition of extra-articular manifestations like oral ulcers can lead to timely diagnosis and management that would prevent from irreversible damages to joints and their organs.

References

1. Ship JA, Chavez EM, Doerr PA, Henson BS, Sarmadi M. Recurrent aphthous stomatitis. *Quintessence international*. 2000 Feb 1;31(2):95. [Google Scholar]
2. Altenburg A, El-Haj N, Micheli C, Puttkammer M, Abdel-Naser MB, Zouboulis CC. The treatment of chronic recurrent oral aphthous ulcers. *Deutsches Ärzteblatt International*. 2014 Oct 3;111(40):665. [Google Scholar]
3. Hurd ER. Extraarticular manifestations of rheumatoid arthritis. In *Seminars in arthritis and rheumatism* 1979 Feb 1 (Vol. 8, No. 3, pp. 151-176). WB Saunders. [Google Scholar]
4. Parvaei P, Dorri-giv A, Sharifzadeh G, Malakimoghadam H, Atabati E. Oral mucosal lesions and dmft index assessment in rheumatoid arthritis patients in birjand, Iran, in 2018. *The Open Rheumatology Journal*. 2020 Nov 25;14(1). [Google Scholar]
5. Gheorghe DN, Popescu DM, Dinescu SC, Silaghi M, Surlin P, Ciurea PL. Association between Sjögren's syndrome and periodontitis: epidemiological, fundamental and clinical data: a systematic review. *Diagnostics*. 2023 Apr 12;13(8):1401. [Google Scholar]
6. Scully C, Gorsky M, Lozada-Nur F. The diagnosis and management of recurrent aphthous stomatitis: a consensus approach. *The Journal of the American Dental Association*. 2003 Feb 1;134(2):200-7. [Google Scholar]
7. Mahdi KA, Hanweert DM, Al-Mudhafar MH. Elevated salivary IL-8 levels in patients with aphthous ulceration and rheumatoid arthritis: A cross-sectional study. *European Journal of Medical and Health Sciences*. 2024 Feb 5;6(1):25-9. [Google Scholar]
8. Maurizi E, Adamo D, Magrelli FM, Galaverni G, Attico E, Merra A, Maffezzoni MB, Losi L, Genna VG, Sceberas V, Pellegrini G. Regenerative medicine of epithelia: lessons from the past and future goals. *Frontiers in bioengineering and biotechnology*. 2021 Mar 25;9:652214. [Google Scholar]
9. Zhang X, Zhang D, Jia H, Feng Q, Wang D, Liang D, Wu X, Li J, Tang L, Li Y, Lan Z. The oral and gut microbiomes are perturbed in rheumatoid arthritis and partly normalized after treatment. *Nature medicine*. 2015 Aug;21(8):895-905 [Google Scholar]
10. Hasan A, Patel H, Saleh H, Youngberg G, Litchfield J, Krishnaswamy G. Remission of severe aphthous stomatitis of celiac disease with etanercept. *Clinical and Molecular Allergy*. 2013 Dec 24;11(1):6. [Google Scholar]
11. Danese S, Vuitton L, Peyrin-Biroulet L. Biologic agents for IBD: practical insights. *Nature reviews Gastroenterology & hepatology*. 2015 Sep;12(9):537-45. [Google Scholar]
12. Fourie J, Laubscher D, Simelane T. Methotrexate-induced oral mucositis in patients with rheumatoid arthritis: A case series and literature review. *South African Dental Journal*. 2025 Feb 1;80(1):33-41. [Google Scholar]

Citation: Shrestha P, Panthi S, Karn K, Nepal J. Beyond the Mouth: A Case of Recurrent Aphthous Ulcers Leading to the Diagnosis of Rheumatoid Arthritis. 2026; 1(1): 77-80.