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Granulomatous Oral Lesion in a Patient with Crohn's Disease: A case report

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Case Report

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Abstract

Background:

Oral manifestations of Crohn's disease (CD) are rare but well documented. Their granulomatous nature may mimic other conditions, particularly infectious diseases such as tuberculosis, leading to diagnostic challenges. This case illustrates a rare diagnostic challenge involving granulomatous oral lesions in Crohn's disease mimicking tuberculosis in an immunosuppressed patient. It highlights the importance of systematic tuberculosis screening before attributing such lesions to Crohn's disease, especially in endemic settings.

Case presentation:

We report the case of a 51-year-old North African woman with a 24-year history of fistulizing ileocolonic Crohn's disease treated with infliximab and azathioprine. She presented with a chronic, painful ulceration of the tongue associated with macroglossia and chronic cough. Clinical examination revealed an ulcerative lesion on the dorsal tongue. Laboratory findings showed anemia, lymphopenia, and elevated inflammatory markers. Histological analysis of a lingual biopsy demonstrated non-caseating granulomatous inflammation. Given the respiratory symptoms, imaging investigations suggested pulmonary tuberculosis. Although sputum acid-fast bacilli testing was negative, bronchoscopy confirmed tuberculosis. Anti-tuberculous therapy led to a favorable outcome with regression of both pulmonary and oral lesions.

Conclusions:

This case highlights the importance of considering tuberculosis in the differential diagnosis of granulomatous oral lesions in patients with Crohn's disease, particularly in endemic areas and in those receiving immunosuppressive therapy. Early recognition is essential to ensure appropriate management and avoid misdiagnosis.

Background

Crohn's disease is a chronic inflammatory disorder of the gastrointestinal tract and belongs to the group of inflammatory bowel diseases (IBD). It is characterized by segmental, transmural inflammation that may affect any part of the digestive tract, from the mouth to the anus [1]. Oral manifestations, although less frequent than ileocolonic involvement, represent significant extra-intestinal features and may present as ulcerations, edema, or granulomatous lesions [2].

In this context, the occurrence of oral lesions in a patient with Crohn's disease requires careful evaluation, as other granulomatous conditions such as tuberculosis may mimic or coexist with these

manifestations.

This case unique due to the coexistence of granulomatous oral involvement in Crohn's disease and active pulmonary tuberculosis in a patient receiving immunosuppressive therapy. Oral lesions in Crohn's disease are uncommon and may closely mimic other granulomatous disorders, creating a significant diagnostic challenge. The presence of a persistent lingual ulceration, initially suggestive of Crohn's disease, illustrates the risk of misdiagnosis, particularly when histological findings reveal non-specific granulomatous inflammation, which may also be observed in infectious diseases such as tuberculosis [2, 3].

Furthermore, this case highlights the importance of systematic tuberculosis screening in patients with inflammatory bowel disease, especially in endemic areas and prior to initiating or maintaining anti-TNF therapy. The coexistence of tuberculosis and Crohn's disease, although rare, has important therapeutic implications, as immunosuppressive treatment may worsen undiagnosed infections. This report contributes to the literature by illustrating a diagnostic pitfall and emphasizing the need for comprehensive evaluation of granulomatous lesions to ensure accurate diagnosis and appropriate management [3, 4].

Case Presentation

We report the case of a 51-year-old North African woman who had been followed for 24 years for fistulizing ileocolonic Crohn's disease (A2 L3 B3), with a history of surgery, and who had been receiving combination therapy (infliximab + azathioprine) since 2021.

She presented to our gastroenterology department with a chronically evolving, painful ulceration of the tongue. No increase in stool frequency was reported. She described a history of chronic cough and painful macroglossia.

On clinical examination, her body mass index (BMI) was 15.69 kg/m² (underweight). Cutaneous pallor was noted.

Oral examination revealed an ulceration on the dorsal surface of the tongue with raised borders, associated with alternating hyperkeratotic and erosive areas, and contact-induced bleeding (Fig. 1).

Blood tests revealed anemia, lymphopenia, and elevated inflammatory markers. Histological examination of a lingual biopsy revealed granulomatous cheilitis (Fig. 2).

Given the history of chronic cough, chest radiography (Fig. 3), complemented by thoracic computed tomography (Fig. 4), supported the diagnosis of pulmonary tuberculosis.

In view of the strong suspicion of tuberculosis, sputum examination for acid-fast bacilli (AFB) was performed and returned negative. Bronchoscopy with AFB testing was subsequently carried out and

yielded positive results. Anti-tuberculous treatment was initiated, with good clinical outcomes for both pulmonary and tongue lesions.

Discussion

This case underscores the diagnostic challenge of distinguishing between oral Crohn's manifestations and opportunistic infections such as tuberculosis, particularly in patients receiving immunosuppressive therapy. Oral manifestations in CD can range from aphthous ulcers to cobblestone mucosa and are found in approximately 0–9% of the adult population [2].

Oral tuberculosis is rare but should be suspected in patients exhibiting persistent ulcerative lesions with systemic signs of infection. Case series have documented ulceration and swelling as common oral presentations [3].

The differential diagnosis of oral lesions in CD patients is broad and includes orofacial granulomatosis, infections (e.g, tuberculosis, syphilis), and other inflammatory conditions. Tuberculosis of the oral cavity is typically secondary to pulmonary infection and may mimic malignancy or refractory inflammatory lesions, as was observed in our patient [4].

Early identification of tuberculosis in immunosuppressed individuals is crucial, given the risks of dissemination and therapeutic interactions with CD treatments. Clinicians should prioritize tuberculosis screening in endemic areas or in patients with systemic symptoms and unexplained oral lesions.

In our case, the patient was in luminal remission, highlighting the importance of actively investigating tuberculosis before attributing oral lesions to Crohn's disease.

Limitations

As a single case report, generalizability is inherently limited. The findings cannot establish causality or prevalence, and conclusions about optimal screening strategies or treatment protocols must be interpreted with caution.

Conclusion

Persistent oral ulcerations in a patient with Crohn's disease should prompt a broad differential diagnosis, including opportunistic infections such as tuberculosis. Thorough systemic evaluation and targeted investigations are essential to avoid misdiagnosis and to guide appropriate therapy. Early detection and treatment of tuberculosis in this context can lead to rapid clinical resolution.

Declarations

Ethics approval and consent to participate:

Not applicable.

Consent to publish:

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

Competing interests:

The authors declare that they have no competing interests.

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Author Contribution

HJ ,AK and MS contributed to the conception of the work, patient management, and manuscript drafting. MS and RJ contributed to data collection and literature review. NB, SS, SZ and DG critically revised the manuscript. All authors read and approved the final manuscript.

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Data Availability

All data generated or analyzed during this study are included in this published article.

References

1. Gomollón F, Dignass A, Annese V, Tilg H, Van Assche G, Lindsay JO, et al. 3rd European Evidence-based Consensus on the Diagnosis and Management of Crohn’s Disease 2016: Part 1: Diagnosis and Medical Management. *J Crohns Colitis.* 2017;11(1):3–25. doi:10.1093/ecco-jcc/jjw168.
2. Pecci-Lloret MP, Ramirez-Santisteban E, Hergueta-Castillo A, Guerrero-Gironés J, Oñate-Sánchez RE. Oral manifestations of Crohn’s disease: a systematic review. *J Clin Med.* 2023;12(20):6450. doi:10.3390/jcm12206450.

3. Sheereen S, Manva MZ, Sheereen S, Patil NN. Exploring the oral manifestations of tuberculosis: a comprehensive analysis of prevalence and clinicopathological characteristics of oral lesions. *Int J Mycobacteriol.* 2024;13(1):53–57. doi:10.4103/ijmy.ijmy_224_23.
4. Ueda D, Hirashima S, Akimori T, Shitozawa Y, Takano K, Sennari K, et al. A case of oral mucosal tuberculosis resembling a malignancy in an immunocompromised patient. *J Oral Maxillofac Surg Med Pathol.* 2025;37(3):530–534. doi:10.1016/j.ajoms.2024.10.008.

Figures



Figure 1

Ulceration on the dorsal surface of the tongue

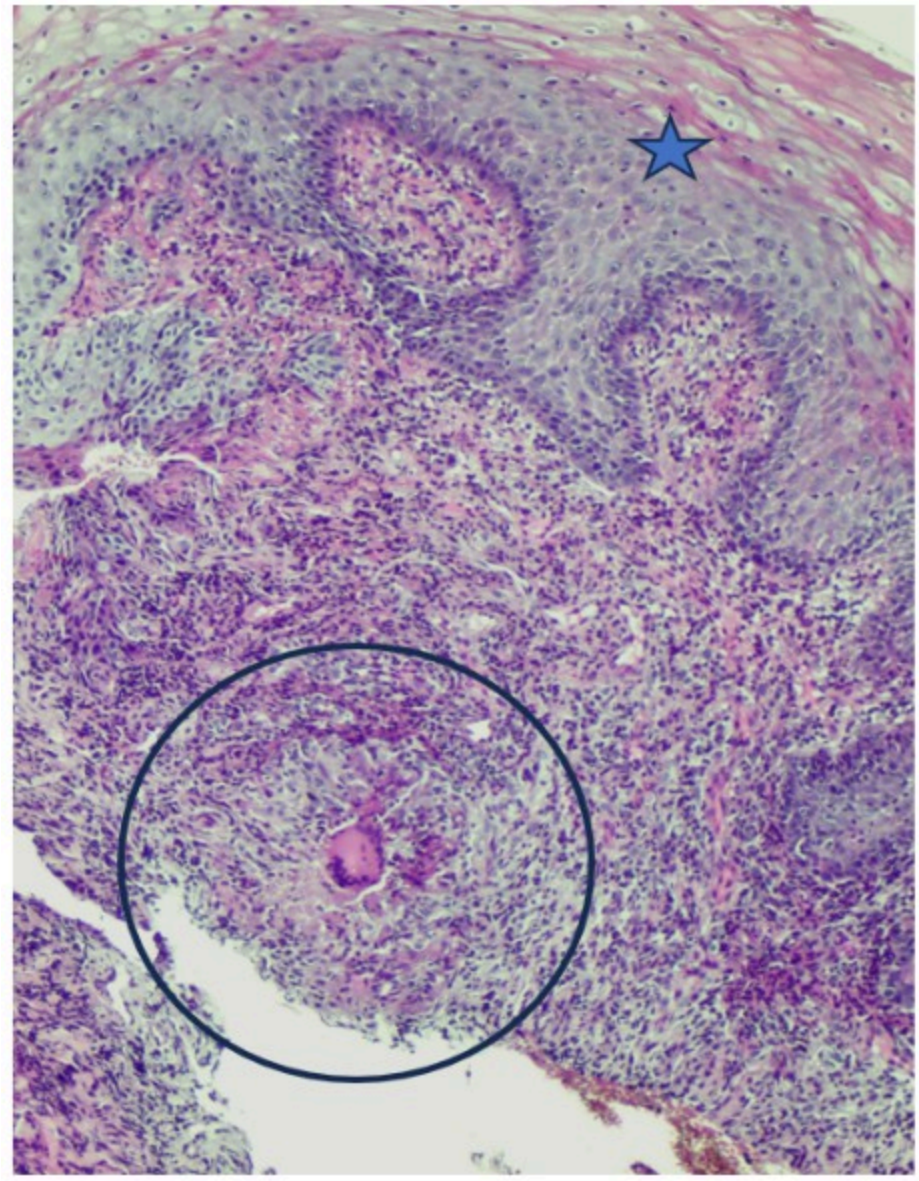


Figure 2

Epithelioid and giant cell granulomas (circle) of the labial mucosa (⋆)



Figure 3

Chest X-Ray showing bilateral nodular infiltrates in the upper lobes



Figure 4

Axial thoracic CT section showing bilateral micronodules and tree-in-bud nodules, predominantly in the upper lobes, confluent, suggestive of pulmonary tuberculosis