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Jaw osteomyelitis due to *Eikenella corrodens* in sickle cell disease

Osteomielite mandibular causada por Eikenella corrodens em paciente com anemia falciforme

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Key points

What is known:
- Sickle cell disease predisposes children to osteomyelitis due to functional immunodeficiency.
- Jaw osteomyelitis is rare but possible in pediatric sickle cell patients.
- *Eikenella corrodens* is part of the oral flora and may cause infections after trauma or dental procedures.

What is added:
- First reported case of jaw osteomyelitis due to *Eikenella corrodens* in a child with sickle cell disease.
- Diagnosis required anaerobic culture and imaging due to the insidious and atypical presentation.
- It highlights the importance of dental surveillance in sickle cell patients to detect early mandibular infections.

We report the case of a 10-year-old boy, a migrant from Guinea-Bissau with sickle cell disease, who was seen at the Emergency Department with a seven-week history of right-sided jaw pain. He had no fever or any other complaints. On examination, a 1 cm lesion with a spontaneous purulent discharge was observed on the right mandible (Fig. 1A). Blood tests revealed hemoglobin 8.1 g/dL, leukocytes 11,000/µL, and c-reactive protein (CRP) 0.68 mg/dL.

Given the background of sickle cell disease, osteomyelitis was suspected. A maxillofacial computed tomography (CT) scan and purulent discharge cultures were performed. Empirical oral amoxicillin-clavulanic acid and clindamycin were initiated. The CT scan revealed alveolar bone osteomyelitis, with a drainage tract and breach in the vestibular bone.

Eikenella corrodens, susceptible to amoxicillin, was isolated from the discharge. Antibiotic therapy was de-escalated to oral amoxicillin and was continued for eight weeks. Symptoms were fully resolved (Fig. 1B) and the patient remains asymptomatic under regular follow-up.

Sickle cell disease is characterized by functional immunodeficiency, predisposing patients to severe infections[1,2]. Osteomyelitis is significantly more frequent in this population than in the general pediatric population[2]. Diagnosis often requires high clinical suspicion and targeted imaging and microbiological testing, as it may present insidiously and be a source of diagnostic delay[1,2].

Eikenella corrodens is a slow-growing, microaerophilic gram-negative rod that is part of the oral flora[3]. Although rare, it can cause invasive infections,

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Figure 1. A: patient admitted with a 1 cm lesion on the right mandible, presenting spontaneous purulent discharge. **B:** complete resolution of the infection after eight weeks of antibiotic therapy.

particularly after oral trauma or dental procedures[3]. Identification requires anaerobic cultures, as standard techniques may fail to detect it[3].

To our knowledge, this is the first reported case of jaw osteomyelitis caused by Eikenella corrodens in a child with sickle cell disease. This underscores the importance of dental surveillance and appropriate culture techniques in this high-risk population.

Authors contributions

J. Costa Branco, F. Abrantes and I. Pereira Soares participated in the idea behind, or design of, the study. J. Costa Branco, F. Abrantes and I. Pereira Soares participated in data collection. J. Costa Branco and F. Abrantes participated in drafting the manuscript. C. Amaro Gonçalves participated in the critical review of the manuscript. All the authors approved the final manuscript and are accountable for all aspects of the paper and for ensuring its accuracy.

Previous presentations

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Conflicts of interest

None.

Ethical considerations

Protection of humans and animals. The authors declare that no experiments involving humans or animals were conducted for this research.

Confidentiality, informed consent, and ethical approval. The authors have followed their institution's confidentiality protocols, obtained informed consent from patients, and received approval from the Ethics Committee. The SAGER guidelines were followed according to the nature of the study.

Declaration on the use of artificial intelligence. The authors declare that no generative artificial intelligence was used in the writing of this manuscript.

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