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Case Report

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Generalized Gingival Enlargement as the First Manifestation of Leukemia

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Case Presentation

A 70-year-old woman was treated during the last 3 months by her periodontist because of gingival inflammation. As no resolution was reached and the gingiva became enlarged, painful and presented bleeding, the patient was referred to Oral Diagnostic Clinic for evaluation. Extra-oral examination revealed conjunctival pallor and several hematomas in her legs and arms. On intra-oral examination a generalized and reddish gingival enlargement was observed **(Figure 1)**. Panoramic radiographic did not show any alteration. The patient was referred for hematological investigations and the complete blood count showed abnormal values as follow: white blood cells 89,400/mm^3 (normal value between 3,500-10,000/mm^3), lymphocytes 4,470/mm^3 (normal value between 700-3,000/mm^3), neutrophils 10,728/mm^3 (normal value between 1,750-7,000/mm^3), and monocytes 8,940/mm^3 (normal value between 140-800/mm^3). Additionally, she had hemoglobin level of 7.7 g/dL (normal value, between 11-15 g/dL) and platelets level of 211,000/mm^3 (normal value 130,000-400,000mm^3). These results showing high levels of blood cells were suggestive of leukemia. Bone marrow biopsy was performed confirming the diagnosis of leukemia. The patient started chemotherapy but unfortunately she died 2 weeks later.

Figure 1: Clinical image showing generalized reddish gingival enlargement.

Comments

The oral cavity may show the first clinical signs of leukemia through the pallor of the mucosa, gingival bleeding or ecchymosis, non-specific ulcerations, and opportunistic infections, including combined or isolated fungal, viral, and bacterial infections [1,2]. These oral manifestations are a direct result of leukemic cell infiltration or secondary to a decrease in platelets in the blood, a reduction in neutrophils, or impaired granulocyte function [2,3]. The differential diagnosis of leukemic gingival enlargement should include particularly caused by bacterial plaque and induced by medication [2]. In the current case, the lack of response to conventional periodontal treatment served as a warning that the initial diagnosis was probably incorrect. The first studies on hematological diseases already showed the fundamental role of the dental surgeon in early diagnosis [4,5]. Osgood [4], showed that of 127 cases of leukemia, all had generalized gingival growth. Berkheiser [5], showed that 52% of 29 leukemia patients had clinical signs of gingival hyperplasia. Stafford et al. [6] showed in a robust study that 33% of patients with leukemia were diagnosed by dental surgeons. If not diagnosed and treated in a timely and proper manner, leukemia can be fatal within weeks or months, as was the case with our patient. In general, treatment traditionally involves induction chemotherapy followed by consolidation therapy after initial remission of the disease [7]. It is worth remembering that excessive gingival growth due to leukemia is often amenable to chemotherapy [2], without the need for any periodontal surgical intervention. Unfortunately, in this case it was not possible to see the remission of the gingival hyperplasia as the patient died few weeks after the diagnosis.

Conclusion

It is important to keep in mind that one of the first signs of leukemia occur in the mouth, particularly enlarged bleeding gingiva, and the health care professional must be able to recognize it contributing to early diagnosis and appropriated management.

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