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Unusual Presentation of Acute Myeloid Leukemia: A Case of Gingival Hyperplasia

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Description

Acute Myeloid Leukemia (AML) is a hematological malignancy characterized by the rapid proliferation of myeloid precursors in the bone marrow. Typical clinical manifestations include fever, fatigue, and anemia. Gingival hyperplasia as an initial presentation of AML is exceedingly rare and poses a diagnostic challenge. We present a case of a 45 year old male who sought dental consultation for gingival enlargement and was later diagnosed with AML. This case emphasizes the importance of considering hematological disorders in the differential diagnosis of unusual oral lesions.

Acute Myeloid Leukemia (AML) is a heterogeneous group of hematologic malignancies characterized by the clonal expansion of myeloid progenitor cells in the bone marrow. Common clinical presentations of AML include anemia, fatigue, infection, and hemorrhage due to bone marrow failure. Gingival hyperplasia as the initial presentation of AML is exceedingly rare, and only a few cases have been reported in the literature. Herein, we describe an unusual case of AML in a patient presenting with gingival hyperplasia.

A 45 year old male presented to the dental clinic with complaints of progressive gingival enlargement over the past six months. The patient reported discomfort while eating and difficulty maintaining oral hygiene due to the excessive gingival tissue. He denied any history of dental problems or prior gum disease.

On clinical examination, generalized gingival hyperplasia was noted. The gingiva appeared erythematous, edematous, and had a granular surface texture. There were no signs of gingival bleeding on probing. Periodontal pockets were absent. The patient's medical history was unremarkable, with no prior exposure to medications associated with gingival hyperplasia.

Given the atypical nature of the gingival hyperplasia and its non-responsiveness to conventional periodontal treatment, the dental team decided to refer the patient for a hematological evaluation. Laboratory investigations revealed pancytopenia, with a white blood cell count of 1.5 × 10^9/L, hemoglobin level of 8.5 g/dL, and platelet count of 40 × 10^9/L.

Further diagnostic workup included a bone marrow aspirate and biopsy. The bone marrow aspirate demonstrated a hypercellular marrow with a predominance of myeloblasts. Flow cytometry revealed expression of myeloid markers, consistent with AML. Molecular analysis demonstrated a FLT3-ITD mutation.

Gingival hyperplasia is a clinical condition characterized by the enlargement of gingival tissues. It is a recognized side effect of certain medications, including phenytoin, cyclosporine, and calcium channel blockers. However, gingival hyperplasia as a presenting feature of AML is rare and has only been documented in a few case reports.

The pathophysiology of gingival hyperplasia in AML is not fully understood. It is believed to be related to leukemic infiltration of the oral soft tissues, leading to inflammation and proliferation of gingival cells. In our case, the erythematous and granular appearance of the gingiva was likely due to leukemic infiltration.

Conclusion

This case report underscores the significance of considering hematologic malignancies in the differential diagnosis of gingival hyperplasia, especially when conventional periodontal treatment fails to resolve the condition. Early recognition and prompt referral for hematological evaluation are essential for timely diagnosis and treatment. Although gingival hyperplasia as a presenting symptom of AML is exceedingly rare, healthcare providers, including dentists, should be aware of this unusual clinical presentation to facilitate early diagnosis and improve patient outcomes.

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