BACKGROUND: Thalassemia major (TM) is an autosomal-recessive genetic blood disorder. Regular blood transfusions to improve chronic anemia caused by ineffective erythropoiesis and hemolysis lead to iron overload in many organs in TM patients. The aim of this study was to investigate the periodontal status and the iron accumulation in gingival tissues of TM patients and assess whether iron deposition in gingival biopsies could be an alternative method for the diagnosis of body iron overload in TM patients.

MATERIALS AND METHODS: This study was conducted on 22 TM patients and 20 healthy matched controls. Plaque index, gingival index, and probing pocket depth were measured and gingival biopsies were obtained in all subjects. Venous blood samplings and liver biopsies were carried out only in patients with thalassemia. Gingiva and liver tissue samples were evaluated histopathologically for inflammation, iron accumulation, and fibrosis.

RESULTS: There was no difference between the groups regarding periodontal health, and all patients had mild gingivitis. Gingival iron accumulation was observed only in the TM group. The iron accumulation was detected in the liver of all the patients with thalassemia. The gingival iron accumulation was correlated with neither serum ferritin levels nor hepatic iron accumulations.

CONCLUSIONS: The periodontal tissues are affected by iron accumulation as well as hepatic, cardiac, and endocrine tissues in TM patients. Further studies investigating the usage of the gingival biopsy for prediagnosis of body iron overload in TM patients are needed.

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