Radiographic and MRI features of deferiprone-related arthropathy of the knees in patients with beta-thalassemia.

OBJECTIVE: This study was undertaken to describe the radiographic and MRI appearances of arthropathy of the knees in 14 patients with beta-thalassemia major undergoing chelation therapy with deferiprone (L1). MATERIALS AND METHODS: All available radiographs and MRI studies of the knees in 14 beta-thalassemia major patients (mean age, 16.3 years; age range, 7-33 years) undergoing chelation therapy with L1 were retrospectively assessed for changes in the synovium, cartilage, and bone. Imaging findings and signs of knee arthropathy were correlated with chelation therapy and average serum ferritin concentration. RESULTS: Nine (64%) of the 14 patients developed arthralgia of the knees during treatment with L1. Abnormal imaging findings were present in all symptomatic and two asymptomatic patients (12/14, 86%) and included joint effusion, subchondral bone irregularity, and patellar beaks. Additional MRI findings were thickening and enhancement of the synovium; hypointense bands in the synovium; irregularly thickened epiphyseal and articular cartilage overlying subchondral bone defects; and, on T2-weighted sequences, hyperintense articular cartilage lesions. The degree of knee symptoms at the time of imaging did not reflect the severity of cartilage and subchondral bone changes.
CONCLUSION: Radiologic changes can be seen in L1-related arthropathy and should be recognized. MRI of the knees should be considered in symptomatic children and young adults with thalassemia undergoing L1 chelation therapy for iron overload.

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