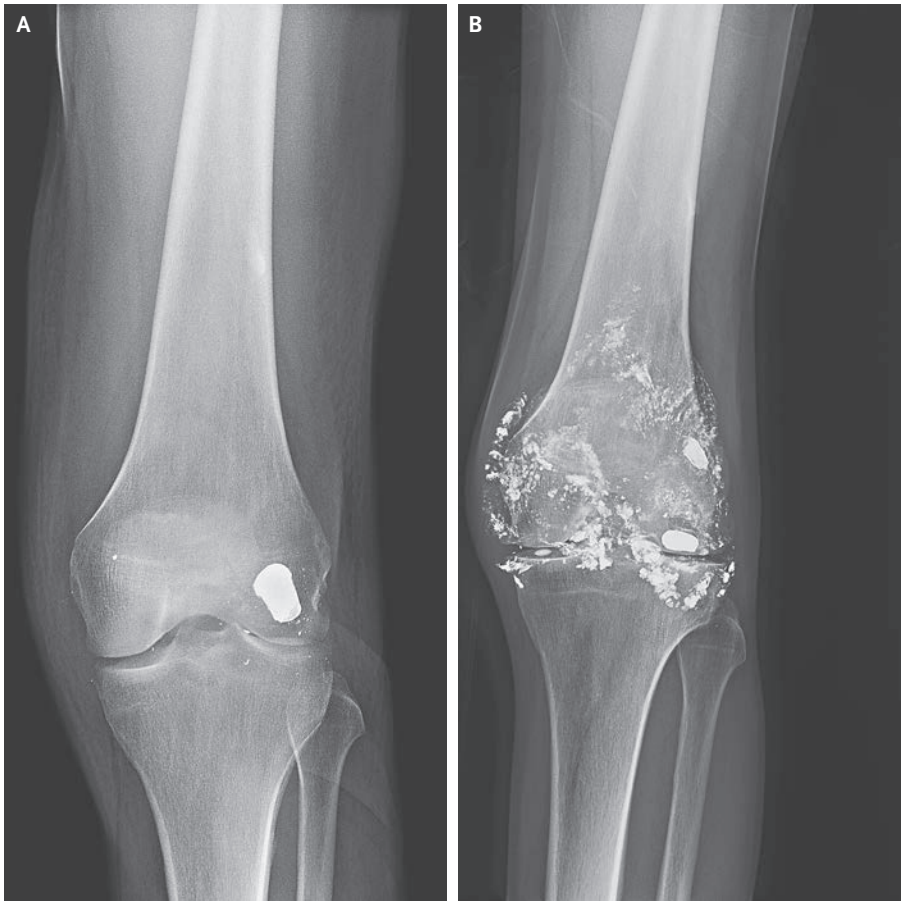
IMAGES IN CLINICAL MEDICINE

Chana A. Sacks, M.D., *Editor*

Lead Toxicity from a Retained Bullet



Jose I. Marquez, M.D.
Michael A. Schindlbeck, M.D.

John H. Stroger Hospital of Cook County
Chicago, IL
mschindlbec@cookcountyhhs.org

A 46-year-old man presented to the emergency department with worsening chronic left knee pain. Fourteen years before presentation, he had sustained a gunshot wound to the left knee. Radiographs obtained at the time of that injury showed a metallic bullet embedded in the posterior weight-bearing surface of the lateral femoral condyle and metallic debris within the joint (Panel A). No surgery was performed to remove the bullet at that time. At the current presentation, the physical examination was notable for a large effusion in the left knee. Repeat radiographs showed that, in addition to changes consistent with arthritis in the joint, the bullet had fragmented into metallic particles throughout the joint and synovium (Panel B). Laboratory studies revealed microcytic anemia, with a hemoglobin level of 9.1 g per deciliter (normal range, 12.9 to 16.8), and an elevated blood lead level (182 μg per deciliter [8.8 μmol per liter]). The Mini–Mental State Examination score was 24 (scores range from 0 to 30, with lower scores indicating poorer cognitive performance). The patient showed no other symptoms of chronic lead poisoning. Intraarticular bullets should be removed surgically at the time of the injury. In addition to causing joint damage, intraarticular bullets can fragment and dissolve in synovial fluid, leading to lead absorption and delayed symptomatic lead poisoning. The patient received chelation therapy. Surgical management with a left knee synovectomy was planned, but the patient left the hospital before surgery and was lost to follow-up.

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