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Radiological studies

Fig. 1. A lateral roentgenogram of the left elbow shows displacement of the anterior (arrows) and posterior (arrowheads) fat pads. The elbow joint, including the bony structures, was considered normal¹

Clinical information

This 27-year-old black woman, with previously verified sickle cell disease, presented with a chief complaint of pain in the left elbow. The patient admitted to several previous episodes of pelvic inflammatory disease (PID) and, indeed, the pelvic examination was compatible with PID. Physical examination of the left elbow demonstrated tenderness and soft tissue swelling along the medial aspect of the elbow, with decreased motion of the elbow. Roentgenograms of the elbow demonstrated displacement of both anterior and posterior pads, compatible with an effusion in the joint; no definite underlying bony abnormality was noted (Fig. 1).

After therapy with oral antibiotics and nonsteroidal anti-inflammatory medication the pain in the elbow diminished, but recurred three months later.

¹ The editor is of the opinion that minimal periosteal reaction on the posterior surface of the distal end of the humerus may be present. However, this finding must be considered questionable
Further laboratory studies demonstrated negative antinuclear antibodies and latex rheumatoid factor, a hemoglobin of 6.8 g%, a hematocrit of 19.2 and a reticulocyte count of 13%, with a normal white cell count. A synovial biopsy of the elbow was performed, but the tissue obtained was not diagnostic. Cultures of the tissue and synovial fluid were negative for bacteria and fungi at that time and on several other occasions. A biopsy of the bone marrow showed slight hypercellularity with erythroid hyperplasia. Despite negative cultures the patient was treated once again with antibiotics for the pain in the elbow, with subsequently improved. She required transfusions with red blood cells, when her reticulocyte count fell.

Two months later the patient developed pain in the maxillae, lower extremities and again in the left elbow. Roentgenograms of the left elbow now showed a large effusion in the joint, periosteal reaction, cortical destruction, and mottled radiolucencies in the distal end of the humerus. Roentgenograms of the lower extremities and the maxillae were normal. Technetium 99m bone and gallium citrate scans showed diffusely increased uptake in the lower extremities as well as in the left humerus in its distal segment. An attempted arthrocentesis of the left elbow yielded no fluid. A percutaneous biopsy of the lateral epicondyle performed by an orthopedic surgeon showed extensive “crush artifact”; no specific diagnosis was made on the basis of this biopsy. The patient was treated with antibiotics and hypertransfusion and again experienced subjective improvement. Within one month, however, the patient developed a high fever.

Several procedures were performed to establish the diagnosis.