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Figure 1. Anteroposterior and lateral radiographic views of the left knee, showing a joint effusion (arrow) but preserved joint space and no evidence of acute fracture.

Figure 2. Noncontrast CT of the left lower extremity.

[Ann Emerg Med. 2019;74:818.]

A 34-year-old man with no medical history presented to the emergency department with anterior left knee pain after being knocked to the ground during an assault. Radiographs revealed a knee effusion (Figure 1, arrow) but no evidence of fracture or dislocation. After oral analgesia, on reevaluations the patient continued to exhibit pain out of proportion to his expected degree of injury, so noncontrast computed tomography (CT) of the extremity was obtained.

For the diagnosis and teaching points, see page 826.
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DIAGNOSIS:

Impacted and comminuted intra-articular fracture of the distal femur. Noncontrast CT revealed an impacted fracture of the lateral femoral condyle (Figure 2, arrow), oriented in a coronal plane through the posterior left lateral femoral condyle and extending to the articular surface, with a large hemarthrosis.

Distal femur fractures occur most often in young athletes with sports injuries and elderly patients after a fall.[1] Such fractures in an otherwise healthy 34-year-old patient are relatively rare. Osteochondral fractures, particularly of the weight-bearing knee joints, almost always require timely surgical intervention and rehabilitation[2] because they are prone to poor healing and development of disabling osteoarthritis. Hemarthrosis on a radiograph of the knee can be a sign of occult knee fracture. In studies of patients with knee hemarthrosis, the incidence of articular cartilage lesions identified on arthroscopy has been found to be up to 20%.[3,4]

The patient was admitted for same-day open reduction and internal fixation with the orthopedic surgery team. Three months after surgery, he was weight bearing and doing well.

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