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Visual Diagnosis in Emergency Medicine

NOT ANOTHER TWISTED KNEE

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CASE REPORT

A 64-year-old woman with a history of left-sided cruciate-sparing total knee arthroplasty (TKA) presented to the emergency department after developing acute onset of pain in her knee. She stated that after standing up, she felt a "pop" followed by pain. The physical examination revealed laxity of the knee posteriorly compared with the contralateral knee. There were no external signs of deformity or swelling and neurovascular status was intact. Radiographs were obtained (Figure 1).

DISCUSSION

Subluxation of TKA is rare and may occur anteriorly or posteriorly, depending upon which ligament is injured. Factors contributing to subluxation include trauma, ligamentous decline, component malalignment, polyethylene wear, and translational parameters between the tibia and the femur (1–3). Instability after total knee arthroplasty is a cause of failure in 10–22% of revisions (4).

Subluxation of TKA may occur after low- or high-energy trauma. The diagnosis should be considered when presented with a severely limited range of motion

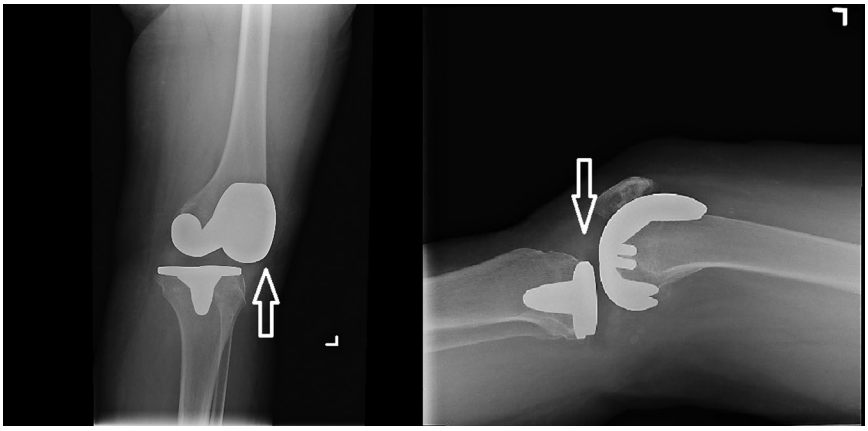

Figure 1. Plain radiographs (anteroposterior and lateral views) of the knee demonstrating malalignment of the femoral component that is posteriorly and laterally subluxed relative to the femoral component.

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in the knee. Computed tomography with angiography or magnetic resonance imaging is indicated when vascular or ligamentous injuries are suspected. Treatment includes emergent reduction if neurovascular compromise is present. Other cases may be managed with expedited outpatient orthopedic follow-up. Revision of the prosthesis is dependent on comorbidities and baseline mobility. Polyethylene wear warrants revision TKA whereas in the case of ligamentous instability, increasing constraint during revision TKA is necessary (5). Complications are rare and include loss of motor and sensory function, arterial occlusion or dissection, venous thrombosis, acute limb ischemia, and compartment syndrome. Our patient was placed in a knee immobilizer and underwent surgical revision of the prosthesis within 1 week.

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