Total Knee Dislocation: A falsely reassuring radiograph

A 43-year-old man presented to the Emergency Department after an injury to his left knee while playing rugby. He explained in detail how he became wedged between two players resulting in his left knee bending the wrong way until his toes were touching his groin. On the pitch, he returned his lower leg back to a more normal position. On examination, his knee was grossly swollen but not deformed. It was exquisitely tender, particularly in the popliteal fossa. Initially, his dorsalis pedis pulse was easily palpable. An x-ray showed no bony injury and only a small supra-patellar effusion (figure 1). After discussion with the orthopaedic team, a CT angiogram was organised. In the intervening period, the patient’s left foot pulse became undetectable. The CTA showed an intimal tear in the popliteal artery resulting in a significantly reduced distal arterial supply (figure 2). The vascular surgeons promptly repaired this tear.

This case demonstrates the absolute necessity for imaging beyond x-ray, which can appear normal, in patients who report knee dislocation. Evidence shows that knee dislocations can be associated with major popliteal vascular damage in up to 40% of cases. Failure to recognise this may lead to lower limb amputation.

James Coates, Claire Butler
Emergency Department Poole General Hospital, Poole, UK

Correspondence to Dr James Coates, Poole General Hospital, Longfleet Road, Poole BH15 2JB, UK; james.coates@doctors.org.uk

Contributors JC is the main author and has written the report. CB reviewed the report and made suggestions for minor changes.

Competing interests None.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

Accepted 15 March 2012


REFERENCE

Figure 1  Left knee plain radiograph showing no bony injury.

Figure 2  CT angiogram showing contrast throughout right popliteal artery but clear absence of contrast distal to the dissection of the left popliteal artery.
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James Coates and Claire Butler

*Emerg Med J* published online April 13, 2012
doi: 10.1136/emermed-2012-201326

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PnP
Published online April 13, 2012 in advance of the print journal.

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