

Knee Dislocations Demographics and Associated Injuries: A Prospective Review of 303 Patients

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Summary:

Medial sided bicruciate injuries were the most common injury pattern in knee dislocations. Peroneal nerve and vascular injuries are associated with lateral sided injuries.

Abstract:

Background: Information on the incidence, injury mechanisms, ligament injury patterns, and associated injuries of knee dislocations is lacking in the literature. There is a need to characterize ligament injury pattern and associated injuries in knee dislocations in order to avoid missing common associated diagnoses and to plan surgical treatment.

Purpose: To evaluate patient demographics, ligament injury patterns and associated injury patterns and associated injuries in patients with knee dislocation.

Study Design: Descriptive Epidemiology Study

Methods: Three hundred and three patients with knee dislocations treated at a single level 1 trauma center were followed prospectively. Injury mechanism, ligament injury patterns, associated neurovascular, meniscal and cartilage injuries and surgical complications were recorded. The Schenck's knee dislocation classification was used to classify the ligament injury patterns.

Results: The mean age at injury was 37.8 +/- 15.3 years. Of the 303 patients included, 65% were male and 35 % female. There was an equal distribution of high energy and low energy injuries. Injury to 3 major ligaments was the most common, with KD III-M constituting 52.4% of the injuries and KD III-L comprising 28.1%. Meniscal injuries and cartilage injuries occurred in 37.3% and 28.3% of the patients respectively. Acutely treated patients had significantly lower odds of a cartilage injury than chronic patients (OR=0.28, 95% CI [0.15, 0.50], p<0.001). Peroneal nerve injuries were recorded in 19.2 % of the patients (10.9% partial and 8.3% complete deficit), while vascular injuries were recorded in 5%. The odds of having a common peroneal nerve injury were 42 times higher (p<0.001) among those with posterolateral corner injury (KD III-L) than those without. The odds for popliteal artery injury were 9 times higher (p=0.001) among those with KD III-L injuries than other ligament injury types.

Conclusion: Medial sided bicruciate injuries were the most common injury pattern in knee dislocations. Cartilage injuries were common in chronically treated patients. There was a significant risk of peroneal nerve injury with lateral sided injuries.

Key terms: Knee dislocation, knee, multiple ligament knee injury, ligament injury pattern