

That Seems A Little High!

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History of Present Illness

68-year-old female with history of hypertension presented with right knee pain. She states she was playing with her grandson and he jumped on her right knee causing it to become hyperextended. The patient stated she cannot bear weight on it because of the pain and has not been able to flex her leg since the incident occurred. She has taken Ibuprofen 800mg prior to arrival and has been icing the knee, both without significant relief. Patient has no prior knee injuries or orthopedic problems in that leg.

Physical Exam

T98.2, BP166/69, HR62, SpO2 97%

General: oriented to person, place and time.

Moderate distress secondary to pain

Cardiovascular: normal rate, regular rhythm, intact radial and DP pulses.

Pulmonary: effort normal, breath sounds normal. No respiratory distress.

MSK: Left knee: decreased ROM, mild swelling, bony tenderness, unable to flex knee, patella displaced superiorly

Neurological: no focal deficits

Questions

What vasculature and neurologic injuries must one consider when evaluating a knee injury?

Answers

Vascular injuries occur in 30-40% of complete knee dislocations, with the popliteal artery being the most common. It is imperative to monitor distal perfusion when a patient presents with a knee injury. Peroneal nerve injury, resulting in “foot drop” is the most common nerve injury associated with dislocations of the knee.



Case Discussion

This patient arrived in the ER in moderate distress secondary to a knee injury that occurred at home. She had taken ibuprofen just prior to arrival and did not want any other pain medications. As she had an isolated traumatic injury to the knee, and there was no history or physical exam to suggest further injury, no laboratory studies were ordered.

The patient was sent for an x-ray of the knee which revealed superior patellar dislocation. This finding was consistent with the physical exam and the patient’s inability to flex her knee.

Dislocation-reduction was performed at the bedside, with post-reduction x-ray confirming the improvement in alignment of the patella. Patient was discharged home with a knee immobilizer and orthopedic follow up.

Superior patellar dislocation is an extremely rare diagnosis with only approximately twenty case reports in literature. They generally occur in those that are middle aged and with a history of degenerative joint disease. There is usually a specific history to indicate significant trauma to the knee in the posterior and superior position.

The most common kind of patellar dislocation is laterally, and patellar dislocations comprise about 2-3% of knee injuries.

Superior patellar dislocations can be commonly mistaken for a patellar tendon rupture as they both result in a high riding patella as well as an inability to flex the knee. Careful physical examination skills, as well as diagnostics including XR, ultrasound and/or MRI can be used to differentiate the two diagnoses. Ultimately, proper diagnosis is important as patellar dislocations should be promptly reduced.

References

Tintinalli, J.E., Stapczynski, J.S., Ma, O.J. et al. Tintinalli's Emergency Medicine: A Comprehensive Study Guide, 8th ed. McGraw-Hill Education, New York, NY; 2015

Pearls

When a patient presents with knee pain secondary to trauma, it is imperative to do a thorough physical exam to ensure there are no vascular or neurologic injuries secondary to the injury.
After patellar dislocation there remains a risk of instability leading to recurrent dislocations, to which patients should be counseled on and have subsequent orthopedic follow up