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Youth Athlete's Hip Pops Him Out of Soccer Game

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Research Abstract Title

Submitting/Presenting Author (must be a trainee): Stephanie Tow, MD
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- Resident/Psychology Intern (\leq 1 month of dedicated research time)
 Resident/Ph.D/post graduate ($>$ 1 month of dedicated research time)
X Fellow

Primary Mentor (one name only): Gregory Canty, MD
Other authors/contributors involved in project:

IRB Number: N/A – case report

Describe role of Submitting/Presenting Trainee in this project (limit 150 words):

Submitting/presenting trainee was involved in the patient care of the patient described in this case report under the supervision of the above named primary mentor. Dr. Tow wrote all of the details of this case report.

Background, Objectives/Goal, Methods/Design, Results, Conclusions limited to 500 words

*Note – I revised the below sections to be more applicable to a case report submission since the original sections listed here are more applicable to research abstract submissions and not appropriate for a case report.

Case History:

An 11-year-old male was planting and cutting on his right leg in a soccer game when he suddenly felt his right hip pop out with immediate pain and fell to the ground. He was not able to ambulate after his injury and was transported to the emergency department. In the emergency department, he reported significant pain all over his right hip region. He still felt like his hip was popped out. He denied numbness, tingling, or weakness distal to his hip.

No significant past medical history. No prior history of hip pain, hip dysplasia, joint laxity, or other orthopedic issues. He is not on any medications.

Physical Exam:

Lying supine, in distress secondary to pain. His right hip was in slight flexion, adduction, and internal rotation. His right lower extremity (RLE) was slightly shorter than his left. He guarded his hip and had tenderness over all aspects of his right hip region. He refused active and passive range of motion of his right hip. Neurovascularly intact throughout with symmetric sensation distal to his right hip, 2+ pedal pulse. Not able to weight-bear through his RLE due to pain and apprehension. No evidence of hypermobility of joints.

Differential Diagnosis:

- 1) Slipped capital femoral epiphysis

- 2) Hip dysplasia with subluxation
- 3) Hip dislocation +/- acetabular fracture
- 4) Femoral neck fracture
- 5) Hip flexor strain

Tests and Results:

X-ray hip AP/lateral showed hip dislocation with the femoral head located superior and posterior to the acetabulum, no fracture. X-ray and CT hip immediately post-reduction confirmed successful reduction of the dislocation, no fracture, no signs of avascular necrosis (AVN), and no evidence of hip dysplasia. 4 weeks from his injury, he had an MRI of his hip, which showed a ligamentum teres tear, femoral head chondral injury, subtle posterior acetabular fracture, labral tear; no AVN.

Final/Working Diagnosis:

Posterior hip dislocation with subtle posterior acetabular fracture, femoral head chondral injury, and labral tear, s/p closed reduction with sedation.

Discussion:

Traumatic hip dislocations are rare in youth athletes. In adults, they are most commonly posterior and associated with large-force trauma, such as motor vehicle accidents, but can rarely be seen in high-energy impact sports, like American football. In youth athletes, they may be seen with far less significant forces. Prompt recognition and reduction of traumatic hip dislocation is key. There is a lack of evidence-guided management once they have been reduced. Further management, including return to activities, repeat imaging to monitor for developing AVN, and follow-up is not well-defined. The below management plan was performed for follow-up and return to activity.

Outcome:

He was managed with posterior hip precautions and non-weightbearing for 4 weeks, then progressed his weightbearing with physical therapy. He was followed-up in clinic at 3 days, 2 weeks, 1.5 months, 2.5 months, and 4 months, post-injury. MRI hip 4 weeks post-injury showed the above findings confirming hip dislocation, no AVN. Full weightbearing was achieved 6 weeks post-injury. X-ray hip 2.5 months post-injury was normal, no signs of AVN. Cleared for full activity 4 months post-injury and was followed in clinic up to 1 year post-injury.