Posterior Proximal Tibiofibular Joint Dislocation in a Young Gymnast: A Case Report
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Abstract

Background: A 13-year-old female competitive gymnast sustained a posterior proximal tibiofibular joint dislocation in her right leg via a dismount on uneven parallel bars. She presented with sharp pain on the lateral aspect of her right knee upon landing. The Athletic Trainer (AT) palpated a sulcus on the lateral side of her right knee with the obvious deformity of the fibular head positioned posteriorly. A tap test on the lateral malleolar produced point in the proximal tibiofibular joint. The gymnast was taken to the emergency room by her parents. She was in obvious discomfort and feeling in her foot and toes in addition to toe movement. She was then splinted with a Samplint and sent to the emergency room. During splitting, the gymnast felt a pop as the fibular head spontaneously reduced. There was no previous history of injury to the knee other than a history of Osgood-Schlatters disease and tight hamstring musculature.

Initial Diagnosis: Fibular head dislocation, patellar dislocation, knee dislocation. ‘Bulldog head fracture’

Treatmet: Upon arrival to the emergency room she was sent for radiographs to rule out further injury. The radiographs showed no further injury to the dislocation. The emergency room physician reported the athlete had mild tenderness on the lateral joint line of the right knee with limited range of motion in flexion and extension secondary to pain. He suggested the injury had signs and symptoms more suggestive of a patellar dislocation and not a knee dislocation. She was treated with ice intermittently for 15 to 20 minutes at a time for four to six times daily for the next two days, as well as take over the counter acetaminophen or Motrin according to the label instructions. The athlete/gymnast noted small to moderate joint effusion in the right knee radiograph. She was placed in a knee immobilizer with crusts and referred to an orthopedic physician. The orthopedic physician diagnosed the injury as a posterior proximal tibiofibular joint dislocation. Since this was an unusual injury, the gymnast was referred for physical therapy. Treatment over the next two days included soft tissue mobilization of the distal leg, ankle, and knee. The gymnast was informed of the typical healing time for this injury. She was referred to the physical therapist for rehabilitation. During physical therapy, the gymnast was placed in a small blue leg brace limiting flexion from zero to ninety degrees and she was allowed to begin weight bearing. She was referred to a physical therapist to start rehabilitation.

Treatment: At 12 weeks post-dislocation, the gymnast began performing full routines on all apparatuses. Two years later, the gymnast is currently competing at a level 10 in competitive gymnastics. The literature lacks also treatment and rehabilitation protocols for a posterior proximal tibiofibular joint dislocation. The rehabilitation protocol and functional progression reported in the literature.

Differential Diagnosis

- Fibular head dislocation
- Patellar dislocation
- Knee dislocation
- Fibular head fracture

Background