



PATELLAR FRACTURE IN A COLLEGIATE FOOTBALL PLAYER: A CASE STUDY

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Background

Athlete is a 22-year-old male football player with no prior knee injuries or complications. The athlete was playing safety and went to make a tackle and collided knees with another player; he immediately complained of anterior knee pain and as the Athletic Trainers were assessing him gross swelling began to form. Special tests were negative for all ligamentous deficiency but the athlete was extremely point tender on his patella and patellar tendon.

Differential Diagnosis

Patella fracture, patellar tendon rupture, bone bruise, patellar subluxation/dislocation, fracture tibial/femoral condyles, Osgood-Schlatter Disease.

Treatment

Initially the injury was assessed as a contusion but imaging revealed that the patella was fractured transversely. In patella fractures surgery is usually used to re-attach the pieces of the patella back together, this fracture however was split 70:30 and it was decided that the athlete not have surgery. The decision was reached to not have surgery because the fracture was clean and the bones were believed to be able to heal on their own without fusion or removal of the smaller part. The athlete was placed in a knee immobilizer brace and was partial weight bearing for four days post injury with no pain and only local swelling. Rehabilitation was then initialized and started with ROM exercises and strengthening exercises for hip, quad, hamstring, and calf. The athlete was removed from the immobilizer eight days post injury; and rehabilitation continued for strength and proprioception. Proprioception exercises included balance, proprioceptive neuromuscular facilitation with the ankle, and heel slides with angle progression. Three weeks post injury the athlete was cleared to start jogging in the underwater pool. The athlete does not currently have a designated return to play date, but the goal is within six weeks from date of injury.

Uniqueness

The mechanism of the injury is unique because the angle and force needed to fracture a patella with another patella is very rare; the most common causes of patella fractures are falling directly onto the knee and motor vehicle accidents. Fractures to the patella only account for 1% of all fractures with transverse fractures being even rarer.

Conclusion

Patellar tendon fractures are rare, but can occur with direct blows. It is not a medical emergency, but immediate care needs to be taken to get swelling out of the joint to prevent atrophy and determine the need for surgery. Rehabilitation will be prolonged because the bone needs to heal, but immediate care needs to be taken to prevent atrophy of the VMO. This is an ongoing rehabilitation with the



goal to return the athlete with full ROM, strength, and agility with minimal to no pain or complications even though he did not have surgery.

