Osteochondritis Dissecans of the Knee in an Adolescent Female Soccer Player: A Case Study

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Objective

The purpose of this case report is to look at the effect(s) of Osteochondritis Dissecans in a 15-year-old female soccer player.

Background

Osteochondritis Dissecans (OCD) is a joint disorder found commonly in the knee, but can also be found in the shoulder or elbow. It affects children, adolescents and young adults with a prevalence of 0.05% to 0.08%. The etiology of OCD is unknown. Vascular factors (subchondral bone ischemia may result in cartilaginous lesion), traumatic factors, and repetitive micro trauma with the tibial intercondylar eminences or meniscus pathologies may influence or predispose an athlete to OCD.[2] The athlete involved is a 15-year old female soccer player with previous knee injuries. The year prior to being diagnosed with OCD, the athlete experienced a subluxed patella during her soccer season. This injury may have contributed to the onset of her OCD. The athlete originally complained of pain along the joint line and lateral aspect of the knee as well as pain in the popliteal fossa. She also complained of locking and catching while walking during the day and running at practice. The athlete originally was treated for a hamstring strain with a possible lateral collateral ligament sprain.

Differential Diagnosis

After consulting with her athletic trainer about the symptoms and pain, the athletic trainer originally treated her for a possible lateral collateral ligament sprain. The athletic trainer also treated her for a possible hamstring strain at Gerdy's Tubercule with possible meniscus pathology. After three weeks of treatment with interferential current (IFC), ice, and limitation at practice. Athlete was referred to the team's orthopedic doctor after no relief of signs and symptoms for x-rays and an MRI.

Diagnosis

After consulting the team's orthopedic doctor with x-rays and an MRI the diagnosis was Osteochondritis Dissecans of the Knee. The x-ray and MRI concluded the cartilage between the lateral femoral condyle and lateral tibial condyle had diminished. Such to an extent where bone on bone contact of the condyles was present. Due to the onset of the condition, the athlete agreed with the athletic trainer and physician that a conservative approach of treatment was the best course of action.

Treatment

A non-operative conservative approach was used to treat the osteochondral defect and promote natural healing. Patient education, level of play modification, passive modalities and rest was used to manage the injury.[1] The athlete took the remainder of the season off in order to promote natural healing. Athlete was instructed t use crutches for two weeks and ice daily every hour. Athlete was educated on the OCD condition and healing process.

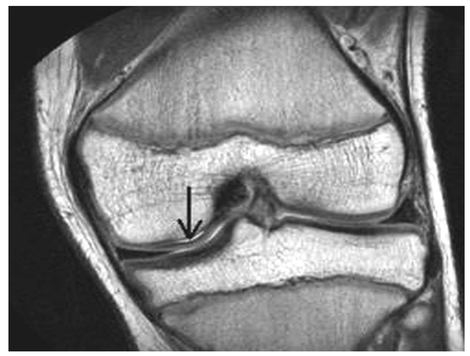
Uniqueness

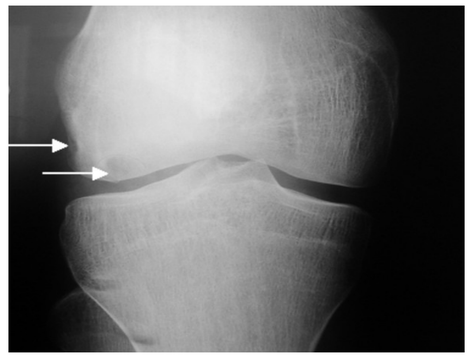
OCD is more prevalent in male athletes than females with a 2:1 to 3:1 ratio.[3] This is true also for ethnically black athletes compared to non-Hispanic white athletes. The athlete in this case report is a female non-Hispanic white athlete. She falls within the normal age range being 11-19 years of age.[3]

Conclusion

The MRI confirmed Osteochondritis Dissecans in the athlete. Effective immediately all athletic play and competition ceased. OCD has ended the athlete's participation in soccer for the remainder of the season. Upon further evaluation, the athlete will continue to use conservative treatment actions until pain and normal range of motion return. To this date the athlete has returned to sport activity with minimal pain with activity.

Images





References

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3. Kessler J, Nikizad H, Shea K, Jacobs J, Bebchuk J, Weiss J. The demographics and epidemiology of osteochondritis dissecans of the knee in children and adolescents. *American Journal of Sports Medicine*. February 2014;42(2):320-326.
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