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Abstract

Athlete is a 22 year-old (70 inches and 165lbs) male NCAA division-3 football athlete. The athlete strained his left (1 months ago) and right (2 weeks ago) hamstring before football preseason. Palpation revealed point tenderness of the middle to proximal end on the lateral side of the hamstrings. The athlete struggled with initial firing of the hamstring but had full AROM in knee flexion. When compared bilaterally, RROM revealed a 3/5 in left knee flexion and hip extension. Three days prior to the platelet rich plasma (PRP) injection, the athlete participated in a traditional conservative treatment protocol. After the PRP injection, it was advised to rest, stretch, and no forms of modalities for 48 hours. After 48 hours, the athlete began to follow a more traditional conservative rehabilitation plan that involved modalities, manual therapy, strengthening and lower body stretching protocols.

Introduction

The athlete had been complaining of tight hamstrings after coming back from his recent hamstring injuries. During a drill on the first preseason practice, the athlete made a cut, took a stride, and felt a pop in his left hamstring. The initial evaluation revealed antalgic gait, favoring of the left lower extremity, and ecchymosis.

Purpose

One domain of athletic training is treatment and rehabilitation. This case demonstrates an alternative approach to traditional treatment and rehabilitation protocol to return an athlete to play in a shorter time period.

Background

- 22 year old male NCAA Division 3 football athlete
- Prior medical history of a right quadriceps contusion that calcified ten months ago. In addition, the athlete strained his left (1 months ago) and right (2 weeks ago) hamstring before football preseason.

Differential Diagnosis

- Hamstring strain
- Ischial tuberosity avulsion.

Clinical Evaluation

- Point tenderness of the middle to proximal end on the lateral hamstring group
- Full AROM in knee flexion but struggled with initial firing of the hamstring.
- RROM revealed a 3/5 in left knee flexion and hip extension.

Treatment

The three days prior to the platelet rich plasma (PRP) injection, the athlete participated in a traditional conservative treatment protocol of the following: rest, compression, and using the MarcPro for 1+ hour multiple times throughout the day. After the PRP injection, it was advised to rest, stretch, and no forms of modalities for 48 hours. After 48 hours, the athlete began to follow a more traditional conservative rehabilitation plan that involved modalities, manual therapy, strengthening of the gluteal muscle group, and lower body stretching protocols.

Uniqueness

Hamstring injuries are one of the most common of all injuries. The 22 year-old athlete received a PRP injection 3 days after the re-injury. After 2 weeks and 3 days, the athlete participated in individual drills at football practice. One study concluded that their NFL players who were clinically diagnosed with either a grade 1 or grade 2 hamstring strain showed an earlier return to play of 3 days for grade 1 and 5 days for grade 2 injuries. This specific case highlights the use of PRP therapy as an alternative treatment option to traditional conservative protocols. The athlete completed two of the lower extremity functional scale (LEFS) patient rated outcome measure (PROM). The first one was completed the day after the PRP injection (Score: 76/80) and the second PROM was completed the day prior to participating in individual drills during practice (Score: 36/80). This supports a study that had witnessed an 85% to 90% success rate with college athletes.

Conclusion

This case highlights an alternative treatment option for a grade 2 hamstring strain for a collegiate football player. This case further highlights the success of PRP therapy and returning an athlete to play faster with the incorporation of traditional conservative treatment protocols after 48 hours of receiving the PRP injection. In addition, this case further highlights that there needs to be more research done on specific guidelines and protocols to follow after a PRP injection for optimal results.

References

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