Utilization of PRP injection and conservative treatment on partial UCL tear in professional baseball pitcher.

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Abstract
Background: Baseball athletes, 23 years old. PMH: Valgus strain evidenced over arm 2 years prior. PT received with R medial elbow PT on pitching arm. Outcome: Chronically. Pain scale: 5/10 M. Repetitive valgus forces played on medial elbow. PT: noticed increase 7 days prior and continued with activities before seeing trainer. PT increases with valgus stress and late in the throwing phase of pitching. PT offered to add PRP injection to the rehabilitation plan, but no decision was made. Patient was placed on electrotherapy and eccentric exercises around anterior injury site. PT, تو APU TAP UCL ligament. UCL laxity and ulnar collateral ligament of 8 mm was present. GBE was also noted when examining pitching mechanics. A PRP injection was given, but decreased stress in the wrist flexors was noted. (+) Moving valgus stress test. (+) UCL laxity. Differential Diagnosis: Partial UCL tear, medial epicondylitis, UCL sprain.

Treatment: Athlete was administered PRP injection into right elbow. Athlete then began conservative treatment with the sports medicine staff. Plan of care regarding this athlete consisted of a variety of therapeutic techniques and exercises in order to restore and enhance the functional limitations present. This first consisted of pain management of injury area as well as PRP injection. This was done through the use of passive modalities such as a game ready to reduce pain and inflammation as is noted in the setting of pain phenomena. PRP was administered to the ST, GHL, and elbow joint were evaluated for functionality, which will guide the treatment plan.

Treatment sessions comprised of passive mobility including soft tissue mobilizations, joint mobilizations, and stretching, as well as active treatment consisting of strengthening of surrounding musculature, plyometrics, and a return to throwing process. Once achieved, the patient progressed back into his designated functional activity, pain and symptoms free.

Unequally: Recently PRP injections have been getting a lot of notoriety for their potential benefits on tissue healing. This literature is filled with a variety of studies that report positive outcomes of PRP injections for a variety of musculoskeletal injuries. PRP injection with conservative treatment rather than surgical intervention. One study reviewed the return to play for 23 athletes with UCL insufficiency who received PRP injections. 22 of the 23 athletes were able to return to play and demonstrated success of the UCL. This case report based on the utilization of the partial UCL tear and history of valgus laxity and valgus extension overload. The timing of the injury also allowed the individual to select this method of treatment knowing if conservative treatment with the PRP injection and conservative treatment was a mean of 62 days. This type of treatment can prove beneficial over surgical intervention as the RTP following PRP injections is about 2 months compared to 11 months post-surgical. This case further highlights the positive effect of adding this injury with the utilization of PRP injections to accelerate the healing process and return to play. This single case report reflects evidence that can be generalized on injuries in relation to return to play.

Introduction
The use of biologic adjuncts such as platelet-rich plasma (PRP) is an area of increasing interest and promise for the treatment of many orthopedic injuries. Platelet-rich plasma has been gaining more and more popularity over the years as it begins to offer patient-specific healing to their patients as a way to treat joint problems caused by damaged and inflamed tendons. It is being used as a substitute to surgery in the treatment of any joint, and as an adjunct to surgery, therapy, or healing in others. Current research indicates that a majority PRP therapy has been geared towards ligamentous/tendon injuries, but treatment of muscle and bone is a possibility. Medial ulnar collateral ligament (UCL) injuries in athletes have been treated with PRP injections and conservative treatment was a mean of 68 days. This type of treatment can prove beneficial over surgical intervention as the RTP following PRP injections is about 2 months compared to 11 months post-surgical. This case further highlights the positive effect of adding this injury with the utilization of PRP injections to accelerate the healing process and return to play. This single case report reflects evidence that can be generalized on injuries in relation to return to play.

Case Report
Patient History: Individual is a 23-year-old professional baseball player who presents with medial elbow pain on right arm (pitching arm). Individual has past medical history of valgus extension overload on same arm and history of throwing phase of pitching. PT offers to add PRP injection to the rehabilitation plan, but no decision was made. Patient was placed on electrotherapy and eccentric exercises around anterior injury site. PT, تو APU TAP UCL ligament. UCL laxity and ulnar collateral ligament of 8 mm was present. GBE was also noted when examining pitching mechanics. A PRP injection was given, but decreased stress in the wrist flexors was noted. (+) Moving valgus stress test. (+) UCL laxity. Differential Diagnosis: Partial UCL tear, medial epicondylitis, UCL sprain.

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Discussion and Summary
This case report went over the utilization of PRP injections for ligamentous/ tendon injuries with the theory of accelerating the healing process in order to allow for a faster return to play. Studies have shown promising results with the incorporation of PRP injection followed with conservative treatment, this biological adjunct can be used for a variety of orthopedic injuries, making it an easily accessible intervention to consider when sustaining an injury with no major side effects and limited contraindications. This case report, along with numerous studies, have shown the efficacy of PRP injections being utilized in UCL strain rehabilitation protocols with a successful accelerated return to return. While the current literature has shown promising results, there has been little data regarding standardization of the PRP injections. Injection schemes are greatly varied throughout the literature, ranging from a single injection to three injections in the increased risk periods. Additionally, the effectiveness of the PRP vary greatly in concentration of platelet concentrations, and there is a lack of data supporting any particular concentration in the literature. These areas require additional investigation.

References