Platelet-rich plasma significantly improves outcomes in patients with tennis elbow

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Platelet rich plasma (PRP) therapy has been used to manage pain associated with torn tendons, muscles and ligaments, mostly in athletes, at all levels. Though it has anecdotally been successful, the evidence to support its efficaciousness is weak. Researchers at the Rothman Institute at Jefferson participated in a multi-center randomized prospective study to evaluate the clinical value of PRP versus an active control group to determine its effectiveness in managing the pain and tenderness associated with tennis elbow.

The results will be presented on Thursday, March 21, 2013, at 5 pm, McCormick Place, Room N427 at the annual meeting of the American Academy of Orthopedic Surgeons (AAOS) in Chicago.

Tennis elbow, lateral epicondylar tendinopathy, is characterized by pain radiating from the outside of the elbow to the forearm and back of the hand when grasping or twisting. The pain associated with tennis elbow can be chronic and severe.

Researchers examined 230 patients with chronic tennis elbow. All had at least three months of symptoms and had failed conventional therapy. One hundred sixteen received treatment with PRP and 114 were in the control. All received .25 percent of the anesthetic bupivacaine with epinephrine, then the PRP group received one injection of PRP placed in the extensor tendon. Both groups were followed for up to 24 weeks. No differences were noted between the PRP and control groups prior to treatment.

PRP was prepared from venous whole blood via a desktop centrifuge and disposable canister at the point of care. The centrifuge separated the platelet-rich plasma, concentrated platelets and white blood cells, which were then injected at the site of the patient's injury. In theory, the growth factors that platelets secrete (not including human growth hormone) spur tissue recovery.

At 12 weeks, the PRP patients reported 55 percent improvement in their pain scores compared to 47 percent in the active control group. At 24 weeks, the PRP patients reported 71 percent improvement compared to 56 percent in the control group.

At 12 weeks, 37.4 percent of patients in the PRP group reported significant elbow tenderness versus 48 percent in the control group. At 24 weeks, the numbers again reflected this trend: 29 percent of PRP patients had significant tenderness versus 54 percent in the control. No significant complications occurred in either group.

The study showed the efficacy and level of results that can be obtained when using PRP as part of a treatment regimen. PRP is safe and results in improvements in pain scores and local tenderness compared to an active control group.

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