

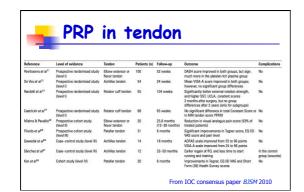


PRP in tendon



- · n=140, elbow epicondylar tendinosis
- · Failed conservative ttr
- · One injection of PRP
- · At 8 weeks, 63% improvement in VAS versus 13% in control

Mirsha & Pavelko Am J Sports Med 2006





PRP in tendon acute lesion

- · RCT n=30 patients
- · FU 1 year
- Autologous platelets have no effect on the healing of human Achilles tendon ruptures
- · In acute tendon repair no evidence of improvement
- Safe

Schepull et al Am J Sports Med 2011



PRP in tendon chronic lesion

- RCT n=54 patients
- Two groups: eccentric training protocol
- PRP injection vs saline in the control group
- - Ultrasound examination at baseline and FU Victorian Institute of Sports Achilles-assessment score

This randomized controlled trial showed no clinical and ultrasonographic superiority or platelet-rich plasma injection over a placebo injection in chronic Achilles tendinopathy at 1 year combined with an eccentric training program.

PRP in PT tendinopathy

n=31 patients, case control study Standard Physical Therapy treatment Failed all ttr modalities EQ-VAS, VAS, patient satisfaction FU: 6 months

The clinical results are encouraging, indicating that PRP injections have the potential to promote the achievement of a satisfactory clinical outcome, even in difficult cases with chronic refractory tendinopathy after previous classical treatments have failed



PRP in tendon chronic lesion

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- 23 randomized trials and 10 cohort studies
- Acromion, rotator cuff, ACL, lateral epicondyle, Achilles & patellar tendons, tibial bone and spine
- Lack of consistency in outcomes report
- Most studies: VAS scores

The current literature is complicated by a lack of standardization of study protocols, platelet-separation techniques, and outcome measures. As a result, there is uncertainty about the evidence to support the increasing clinical use of platelet-rich plasma and autologous blood concentrates as a treatment modality for orthopaedic bone and soft-tissue injuries.



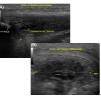
Summary in chronic lesion

- PRP possibly has a positive effect in RC
- Tremendous variability in the biology of RC lesion
- Chronic Achilles tendinopathy data is increasing
- PRP may be effective not demonstrated yet
- Chronic PT tendinopathy PRP can have an effect in more severe cases failed regular ttr
- Elbow May be effective in patients who failed regular ttr



If you still want to do it

- · Use a validated system of platelets separation
- · Anatomical lesion identified
- · Intrinsic collagen activation
- · Ultrasound guided injection
- · Post-injection:
- 10 days no physical constraint 10 days light sports activity
- 3 weeks progressive return to training



Limitations

- Further characterization of biologic mechanisms of PRP
- · Ideal concentration of platelets?
- · Timing of injection
- · Serial injection?
- · Effect of local tissue pH on PRP activity
- Overexposure PRP limit differentiation of cells into the appropriate cell lines

Marx *J Oral Maxillofac Surg* 2004 From IOC consensus paper BJSM 2010



PRP contra-indications

- · Absolute:
 - · Platelet dysfonction syndrome
 - · Hypofibrinogenemia
 - Septicemia
 - · Sensitivity to bovine thrombin

(if using with calcium to make platelet gel, this may lead to intravascular coagulopathy due to antibodies interactions)

Everts et al *Proceeding of 21st Mechanis* of *Perfusion Congress* Orlando 2006



PRP contra-indications

- · Relative:
 - Thrombocytopenia
 - Platelet counts less than 105
 - HCB: < 10g /dl
 - Acute infections
 - Consistent use of NSAIDs within 48h of procedure

Everts et al *Proceeding of 21st Mechanism* of *Perfusion Congress* Orlando 2006



PRP contra-indications

- Relative:
 - Corticosteroid injection at treatment site or systemic use ofcorticosteroids within 2 weeks of injection
 - · Recent fever of illness
 - · Cancer (hematopoetic or bone)

Everts et al Proceeding of 21st Mechanism of Perfusion Congress Orlando 2006



New trend

Ultrasound-guided injections of hyperosmolar dextrose for overuse patellar tendinopathy: a pilot study

Michael Ryan, Anthony Wong, David Rabago, Kenneth Lee, Jack Taunton 5

BJSM January 2012

concussion milet was a reduction in jurial and an improvement in ultrasound appearance following ultrasound-guided dextrose injections for refractory patellar tendingpathy. An improved hypochoic appearance of the tendon was associated with decreased pain scores, suggesting that dextrose injections may modify patellar tendinopathy at the tissue level and that fibrillar changes may play a role in tendon nocicety.



Take home message

- PRP might be effective in several applications
- Standardisation of the preparation
- More data in basic science
- Currently, RCT show no effect or non-reproducible effect
- More robust RCT
- Recommend to proceed with caution in the use of PRP in athletic sporting injuries

