COMPARATIVE STUDY BETWEEN PLATELETS RICH PLASMA AND CORTICOSTEROID LOCAL INJECTIONS IN CHRONIC LATERAL HUMERAL EPICONDYLITIS

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Introduction

Lateral epicondylitis is the most commonly diagnosed condition of the elbow and affects approximately 1% to 3% of the population. It is the most common overuse syndrome which related to excessive wrist extension and commonly referred to as “tennis elbow,” but it is actually more common in non-tennis players. The condition mostly occurs in patients whose activities require strong gripping or repetitive wrist movements. Individuals between the ages of 35 and 50 years are at high risk. The dominant arm is most frequently affected.

The cause of lateral epicondylitis is unknown. It is thought that lesions occur in the common origin of the wrist and finger extensors on the lateral epicondyle because of a combination of mechanical overloading and abnormal microvascular responses in the form of Angio fibroblastic degeneration and collagen disarray. Light microscopy reveals both an excess of fibroblasts and blood vessels that are consistent with neo vessels or angiogenesis.

Platelet-rich plasma (PRP) is promoted as an ideal biologic autologous blood-derived product. It can be exogenously applied to various tissues where, upon platelet activation, a release of high concentrations of platelet derived growth factors occurs.

Platelet-rich plasma applications enhance wound healing, bone healing, and also tendon healing. In addition, PRP also possesses antimicrobial properties that may contribute to the prevention of infections.

Aim of the work

The aim of this study was to compare the effectiveness of Platelets Rich Plasma (PRP) compared with corticosteroids local injection in patients with chronic lateral epicondylitis.

Patients and Methods

Between January 2018 and January 2019, 60 patients presented to El-Hadara University Hospital with lateral epicondylitis were divided s into two groups.

Group A (30 patients) received platelet rich plasma injection (2 ml of autologous venous blood collected from the antecubital fossa of the ipsilateral or contralateral side).

Group B (30 patients) received corticosteroid injection. All patients completeda period of at least six months follow up.

The inclusion criteria were:

Adults with chronic lateral humeral epicondylitis.

The exclusion criteria were:

Patients receiving NSAID within one week.

Patients receiving acetylsalicylate within 48 hours.

Patients with previous surgery for chronic lateral humeral epicondylitis.

All patients were assessed clinically pre and post injection at 2 , 4 and 24 weeks based on Mayo Elbow Performance Score.

Results

Patients of both groups were assessed by the Mayo Elbow Performance Score. Serial clinical assessments and Mayo Score were obtained at first visit before injection. All patients have been followed up for six months (2nd week, 6th week, 24th week).

The Mayo score in group B improved significantly as compared to group A in the second week after injection with mean 79.67 ± 7.76 for group B and 70.67 ± 5.98 for group A, which is statistically significant (p<0.001).

In the 24th week, the Mayo score in group A highly significance improved over group B with mean 84.50 ± 7.58 for group A and 64.33 ± 11.04 for the other group. Group A held its statistically significant over group B (p<0.001).**(Table 1) (Figure 1)**.

Table: Comparison between the two studied groups according to Mayo score

Mayo score	Group A PRP (n = 30)	Group B CST (n = 30)	t	p
Pre-injection Min. – Max.	30.0 – 65.0	30.0 – 70.0	0.547	0.586
Mean ± SD.	51.67 ± 10.28	53.17 ± 10.95		
Post-injection 2 week Min. – Max.	60.0 – 80.0	65.0 – 95.0	5.032*	<0.001*
Mean ± SD.	70.67 ± 5.98	79.67 ± 7.76		
6 week Min. – Max.	70.0 – 90.0	60.0 – 90.0	1.219	0.228
Mean ± SD.	77.67 ± 6.53	75.17 ± 9.14		
24 week Min. – Max.	70.0 – 95.0	40.0 – 80.0		
Mean ± SD.	84.50 ± 7.58	64.33 ± 11.04	8.246*	<0.001*

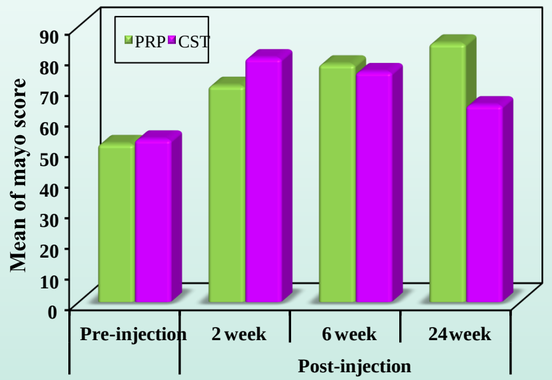

Figure : Comparison between the two studied groups according to Mayo score.

Conclusion

1. Patients with tennis elbow injected with corticosteroids had improved significantly as compared to the effect of PRP injection at the early follow up period at 2nd week.
2. Patients injected with PRP had a late excellent improvement compared to corticosteroids at 24th week follow up period.
3. Tennis elbow commonly occur in the dominant hand.
4. Local injection of tennis elbow is a safe and minimally invasive method for treatment that can reduce pain and improve quality of life.