COMPARATIVE STUDY BETWEEN PLATELETS RICH PLASMA AND CORTICOSTEROID LOCAL INJECTION IN FLEXOR STENOSING TENOSYNOVITIS

Mohamed Abd Elmoneim Hafez, Ahmed Fouad Abotaleb , Osama Abdelmaksoud Elsayed Abdelmaksoud

Department of Orthopedic Surgery and Traumatology, Faculty of Medicine, Alexandria University

Introduction

Stenosing tenosynovitis, or more commonly "trigger finger" is a disease that can impact a patient's quality of life. Its incidence is said to be 28 persons per 100,000 annually, with an estimated lifetime risk of 2.6% in the general population and 10% in the diabetic patients Non-operative therapy includes rest, non-steroidal anti-inflammatory medications, physiotherapy, splinting, extracorporeal shock wave and local injections. The injection of long-acting corticosteroid into the flexor tendon sheath is a common treatment option for trigger digits. Platelet-rich plasma (PRP) is considered as a biologic autologous blood derived product. It has an effective role in treatment of trigger finger. Surgical treatment includes percutaneous or open A1 pulley release of the flexor tendon. Surgical release is considered an effective and definitive treatment option

Aim of the work

The aim of this study is to compare the effectiveness of Platelets Rich Plasma versus Corticosteroids local injection in patients with stenosing tenosynovitis

Patients and Methods

We prospectively compared the result of PRP and corticosteroid injection of trigger fingers. Patients randomly divided into two groups. Group A of 20 patients (24 finger) had underwent local Platelet Rich Plasma injection. Group B of 20 patients (25 fingers) had local corticosteroid injection. Patients were followed for at least three months. Patients was followed up for three months (2nd week, 6th week and 12th week). The final results were assessed using the change in symptom severity, graded according to the Modified Quinnell grading system for trigger digits

Results

Final results

According to the assessment score in group A, there was no significant improvement as compared to group B after injection.

Table (1):Comparison between the two studied groups according to assessment score

Assessment score	Group A PRP (n = 24)	Group B Steroid (n = 25)	U	p
Pre				
Min. – Max.	2.0 – 4.0	2.0 – 5.0	274.50	0.538
Mean ± SD.	3.13 ± 0.54	3.28 ± 0.74		
Median (IQR)	3.0 (3.0 – 3.0)	3.0 (3.0 – 4.0)		
2nd weeks				
Min. – Max.	1.0 – 4.0	1.0 – 4.0	300.0	1.000
Mean ± SD.	1.92 ± 0.83	1.96 ± 0.98		
Median (IQR)	2.0 (1.0 – 2.0)	2.0 (1.0 – 3.0)		
6th weeks				
Min. – Max.	1.0 – 3.0	1.0 – 4.0	256.50	0.331
Mean ± SD.	1.50 ± 0.72	1.72 ± 0.84		
Median (IQR)	1.0 (1.0 – 2.0)	2.0 (1.0 – 2.0)		
12th weeks				
Min. – Max.	1.0 – 3.0	1.0 – 3.0	247.50	0.226
Mean ± SD.	1.42 ± 0.72	1.64 ± 0.76		
Median (IQR)	1.0 (1.0 – 2.0)	1.0 (1.0 – 2.0)		

IQR: Inter quartile range SD: Standard deviation U: Mann Whitney test
p: p value for comparing between the studied groups n: present number of fingers

In both groups, Quinnell grading has improved significantly after injection in the 2nd week, 6th week and 12th week.

Table (2): Comparison between the different studied periods according to assessment score in each group

	Assessment score				Fr	P
	Pre	2nd weeks	6th weeks	12th weeks		
Group A PRP (n = 24)						
Min. – Max.	2.0 – 4.0	1.0 – 4.0	1.0 – 3.0	1.0 – 3.0	61.074	<0.001*
Mean ± SD.	3.13 ± 0.54	1.92 ± 0.83	1.50 ± 0.72	1.42 ± 0.72		
Median (IQR)	3.0 (3.0 – 3.0)	2.0 (1.0 – 2.0)	1.0 (1.0 – 2.0)	1.0 (1.0 – 2.0)		
p_1		<0.001*	<0.001*	<0.001*		
Sig. bet. periods.		p_2=0.118,p_3=0.065,p_4=0.780				
Group B Steroid (n = 25)						
Min. – Max.	2.0 – 5.0	1.0 – 4.0	1.0 – 4.0	1.0 – 3.0	66.260	<0.001*
Mean ± SD.	3.28 ± 0.74	1.96 ± 0.98	1.72 ± 0.84	1.64 ± 0.76		
Median (IQR)	3.0 (3.0 – 4.0)	2.0 (1.0 – 3.0)	2.0 (1.0 – 2.0)	1.0 (1.0 – 2.0)		
p_1		<0.001*	<0.001*	<0.001*		
Sig. bet. periods.		p_2=0.298,p_3=0.171,p_4=0.742				

IQR: Inter quartile range SD: Standard deviation n: present number of fingers Fr: Friedman test, Sig. bet. periods was done using Post Hoc Test (Dunn's)
p: p value for comparing between the studied periods
p1: p value for comparing between pre and each other periods p2: p value for comparing between 2nd weeks and 6th weeks p3: p value for comparing between 2nd weeks and 12th weeks p4: p value for comparing between 6th weeks and 12th weeks
*: Statistically significant at $p \leq 0.05$

Conclusion

there was no statistically significant diffrence in comparison of PRP and corticosteroid injection in stenosing tenosynovitis .