Platelet Rich Plasma vs. Corticosteroid Injections in Treatment of Tendinopathies
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INTRODUCTION
In the past, corticosteroid (CS) injections have been a treatment method for lateral epicondylitis and plantar fasciitis. However, these have been shown to cause tendon damage and rupture and do not usually produce long-lasting results, with patients often having recurrences of symptoms.

More recently, platelet-rich plasma (PRP) has emerged as a new treatment method for these conditions. PRP is created by spinning down a person’s own blood in a centrifuge and then extracting the plasma rich layer, which contains 5-10 times the amount of platelets found in normal blood. PRP also contains growth factors, which promote injury healing.

PICO
- **Patient population**: Patients aged 19 or older with lateral epicondylitis or plantar fasciitis
- **Intervention**: Platelet-rich plasma
- **Comparison**: Corticosteroid injections
- **Outcome**: More relief of pain, longer duration of effects, fewer side effects

RESULTS

<table>
<thead>
<tr>
<th>Study</th>
<th>Patients</th>
<th>Tendonopathy</th>
<th>PRP amount</th>
<th>Corticosteroid type and dosage</th>
<th>Outcomes measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>100</td>
<td>Lateral epicondylitis</td>
<td>3 mL</td>
<td>Unspecified</td>
<td>VAS, DASH, Scores</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>Plantar fasciitis</td>
<td>3 mL</td>
<td>Methylprednisolone, 40 mg</td>
<td>VAS, Roles, and Mayo scores</td>
</tr>
<tr>
<td>3</td>
<td>40</td>
<td>Plantar fasciitis</td>
<td>3 mL</td>
<td>Methylprednisolone, 40 mg</td>
<td>AOFAS scores</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>Lateral epicondylitis</td>
<td>2 mL</td>
<td>Methylprednisolone, 80 mg</td>
<td>VAS, DASH, Oxford Elbow, Modified Mayo scores</td>
</tr>
</tbody>
</table>

**Study 1**: Ongoing Positive Effect of Platelet-Rich Plasma Versus Corticosteroid Injection in Lateral Epicondylitis

- **Results**: The PRP group progressively improved throughout the study. The CS group initially had better outcomes than the PRP group, but then declined back to baseline scores. The scores were statistically significant by the 26 week, 52 week, and 104 week follow-ups, with P-values of <0.001.

**Study 2**: The Comparison of the Effect of Corticosteroid and Platelet-rich Plasma (PRP) for the Treatment of Plantar Fasciitis

- **Results**: There were no statistically significant differences between the PRP group and the corticosteroid group in the VAS scores of Roles and Mayo scores.

**Study 3**: Platelet-Rich Plasma Efficacy Versus Corticosteroid Injection Treatment for Chronic Severe Plantar Fasciitis

- **Results**: The PRP group had consistently higher AOFAS scores after receiving the injections. The differences between the corticosteroid and PRP group were statistically significant with a P-value of 0.001 over the 2 year follow-up period.

**Study 4**: Platelet-Rich Plasma vs. Corticosteroid Injection for Recalcitrant Lateral Epicondylitis: Clinical and Ultrasonographic Evaluation

- **Results**: The VAS, DASH, Oxford Elbow, and Mayo strength scores all improved for both the PRP and CS groups. However, the CS scores started to decline by 6 months follow up. The P-value was <0.05, except at the 3 month follow up. Positive ultrasound findings generally decreased by 6 months, but the number of patients with side effects in the CS group increased.

**Critique**: There were only 30 patients involved in the study. Patients were not blinded to the treatment method. The VAS, Oxford Elbow, and Mayo scores were based on patient rating their pain.

CONCLUSIONS
In conclusion, 3 out of the 4 studies found that PRP led to better improvement of pain and less disability than corticosteroid injections. The effects of PRP also lasted longer. One of the studies did not find any statistically significant difference between the two treatment methods, but it did not find that PRP was any less successful than corticosteroid injections. PRP also had fewer side effects and was therefore a safer treatment method. PRP is more expensive than corticosteroid injections, averaging at $300-$800, but the benefits of the treatment outweigh the cost. Therefore, PRP should be considered as a treatment for patients with tendinopathies.

REFERENCES

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