Topical nitric oxide relieved pain and symptoms in chronic extensor tendinosis at the elbow


Clinical impact ratings GP/FP/Primary care ★★★★★☆

In patients with chronic extensor tendinosis at the elbow (tennis elbow), does topical nitric oxide improve outcome?

METHODS

Design: randomised controlled trial.
Allocation: {concealed}†.
Blinding: blinded (patients and outcome assessors).*
Follow up period: 6 months.
Setting: Sydney, New South Wales, Australia.
Patients: 86 patients (95 elbows) who were 30–74 years of age (median age 46 y, 51% women) and had extensor tendinosis for ≥3 months. Exclusion criteria: pregnancy, previous surgery, dislocation of the affected wrist or elbow, distal neurological signs, or a local corticosteroid injection in the previous 3 months.
Intervention: 43 patients were allocated to an active transdermal patch (1/4 of a 5 mg per 24 hour Nitro-dur patch, Schlering-Plough, Sydney, Australia). 43 patients received a matching placebo transdermal patch. Patients also received 24 paracetamol tablets (500 mg/tablet) to use as needed and were instructed in a tendon rehabilitation programme.
Outcomes: Patient rated elbow pain (0–4 [severe]) at rest, with activity, or at night; local epicondylar and tendon tenderness (0 to 3 [severe]); and wrist extensor mean peak force and mean total work.
Patient follow up: 86% (analysis was by intention to treat).

* See glossary.
† Information provided by author.

MAIN RESULTS

The nitric oxide group had a greater decrease in elbow pain with activity at week 2 (p = 0.01), a greater decrease in lateral epicondylar and tendon tenderness at weeks 6 (p = 0.02) and 12 (p = 0.02), and a greater increase in mean peak force at week 24 (p = 0.03) and mean total work at week 24 (p = 0.03) than did patients in the placebo group. More patients in the nitric oxide group than the placebo group were asymptomatic during activities of daily living at week 24 (table).

CONCLUSION

In patients with chronic extensor tendinosis at the elbow, topical nitric oxide led to clinical improvement.

Topical nitric oxide v placebo for chronic extensor tendinosis at the elbow

<table>
<thead>
<tr>
<th>Outcomes at 24 weeks</th>
<th>Nitric oxide</th>
<th>Placebo</th>
<th>RBI (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asymptomatic during ADLs</td>
<td>81%</td>
<td>60%</td>
<td>35% (2.6 to 83)</td>
<td>5 (3 to 61)</td>
</tr>
</tbody>
</table>

*ADLs = activities of daily living. Other abbreviations defined in glossary; RBI, NNT, and CI calculated from data in article.