Review: elastic compression stockings prevent post-thrombotic syndrome in patients with deep venous thrombosis


Are non-pharmaceutical interventions effective and safe for preventing post-thrombotic syndrome (PTS) in patients with deep venous thrombosis (DVT)?

METHODS

Data sources: Cochrane Peripheral Vascular Diseases Specialised Trials Register (January 2003), which is based on searches of Medline and EMBASE/Excerpta Medica; Cochrane Central Register of Controlled Trials (2002); hand searches of Scripta Phlebologica (1993-2000), J Thromb Haemost (2003), conference proceedings, and citations of identified studies; and experts in the field.

Study selection and assessment: randomised controlled trials (RCTs) or clinical controlled trials that compared medical elastic stockings (pressure 20–30 mm Hg or 30–40 mm Hg at the ankle), compression bandages, or bed rest with control (no intervention or placebo stockings) in patients with objectively diagnosed DVT. Studies were assessed for validity and methods using a standard checklist.

Outcomes: occurrence of PTS over time. Secondary outcomes included complications and adverse effects (pulmonary embolism within 2 weeks of treatment, discomfort, pain, swelling, pressure sores, and recurrence of thrombosis).

MAIN RESULTS

4 RCTs (n = 466) met the selection criteria; 3 (n = 421) were included in the meta-analysis. At 2 years, patients who received elastic compression stockings had greater reductions in the incidence of any or severe PTS than those who received the control intervention (table). No information was available for complications or adverse effects in these studies. In 1 RCT (n = 45), patients who received a compression intervention had less pain and swelling than those who received bed rest without compression for the first 9 days after DVT (p<0.05). Complications or adverse effects were similar between the groups.

CONCLUSIONS

Elastic compression stockings prevent post-thrombotic syndrome in patients with deep venous thrombosis. Safety information was not available for the pooled studies; 1 study found similar adverse effects between groups.

Outcome at 2 years Number of studies (n) Weighted event rates

<table>
<thead>
<tr>
<th></th>
<th>Stockings</th>
<th>Control</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any PTS</td>
<td>3 (421)</td>
<td>20%</td>
<td>43%</td>
<td>54% (38 to 66)</td>
</tr>
<tr>
<td>Severe PTS</td>
<td>3 (421)</td>
<td>7%</td>
<td>15%</td>
<td>56% (20 to 75)</td>
</tr>
</tbody>
</table>

*PTS = post-thrombotic syndrome; other abbreviations defined in glossary. RRR, NNT, and CI calculated from data in article.