Lumbar fusion did not differ from cognitive therapy plus exercise for reducing disability and pain in chronic low back pain


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

Q In patients with chronic low back pain (CLBP), is instrumented lumbar fusion (ILF) more effective than cognitive therapy plus exercise (CTE) for reducing CLBP related disability and pain?

METHODS

Design: randomised controlled trial.
Allocation: concealed.*
Blinding: outcome assessors.*
Follow up period: 1 year.
Setting: 4 hospitals in Norway.

Patients: 64 patients 25–60 years of age (mean age 43 y, 61% men) with CLBP that lasted > 1 year who had Oswestry Disability Index (ODI) >30 at 100 points, and degeneration at L4-L5 and/or L5-S1 (spondylosis) on plain radiographs. Exclusion criteria included widespread myofascial pain, spinal stenosis with reduced walking distance and neurological signs, and recurrent disc herniation or lateral recess stenosis with clinical signs of radiculopathy.

Intervention: patients were allocated to ILF (n = 37) or CTE (n = 27). ILF consisted of posterolateral fusion with transpedicular screws of the L4–L5 segment and/or L5–S1 segment plus physiotherapy. Patients in the CTE group received a lecture explaining that ordinary physical activity would not harm the disc, and a recommendation to bend the back and use it. This recommendation was reinforced by 3 daily physical exercise sessions for 3 weeks.

Outcomes: CLBP related disability and pain (0–100% ODI), lower limb pain (0–100 visual analogue scale), and fear avoidance beliefs about physical activity (Waddell's Fear Avoidance Belief Questionnaire).

Patient follow up: 95%.

*See glossary.

MAIN RESULTS

Analysis was by intention to treat. The groups did not differ for change from baseline in CLBP related disability and pain (table). Reduction from baseline in lower limb pain was greater in the ILF group than in the CTE group (table). Reduction in fear avoidance beliefs was greater in the CTE group than in the ILF group (table).

CONCLUSIONS

In patients with chronic low back pain (CLBP), instrumented lumbar fusion (ILF) did not differ from cognitive therapy plus exercise for reducing CLBP related disability and pain. However, ILF improved lower limb pain.

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Instrumented lumbar fusion (ILF) v cognitive therapy plus exercise (CTE) in chronic low back pain at 1 year*

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>ILF</th>
<th>CTE</th>
<th>Difference between groups (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability and pain (0–100)</td>
<td>15.6</td>
<td>13.3</td>
<td>2.3 (6.8 to 11.4)</td>
</tr>
<tr>
<td>Oswestry Disability Index</td>
<td></td>
<td></td>
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<tr>
<td>Lower limb pain (0–100)</td>
<td>16.9</td>
<td>15.1</td>
<td>1.8 (4.3 to 30.7)†</td>
</tr>
<tr>
<td>visual analogue scale</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fear avoidance beliefs about physical activity (FABQ-PA)</td>
<td>2.2</td>
<td>9.9</td>
<td>–7.7 (11.6 to –3.8)‡</td>
</tr>
<tr>
<td>Fear avoidance beliefs about work (FABQ-W)</td>
<td>–1.1</td>
<td>5.6</td>
<td>–6.7 (13.7 to –3.0)‡</td>
</tr>
</tbody>
</table>

*FABQ-PA = 0–24 Waddell's Fear Avoidance Belief Questionnaire about physical activity; FABQ-W = 0–36 Waddell's Fear Avoidance Belief Questionnaire about work. O defined in glossary.
†Significant difference favours ILF.
‡Significant difference favours CTE.