Review: some evidence suggests that cognitive behaviour therapy may reduce chest pain in the short term in patients with non-specific chest pain and normal coronary anatomy


Q Are psychological treatments effective for patients with non-specific chest pain and normal coronary anatomy?

METHODS

Data sources: Cochrane Review Group Specialised registers (November 2002); Cochrane Library (Issue 3, 2002); Medline (1966–2002); CINAHL (1982–2002); EMBASE/Excerpta Medica (1980–2002); PsycINFO (1987–2002); Biological Abstracts BIOSIS (1990–2002); reference lists of relevant studies and reviews; abstracts from cardiology, psychiatry, and psychology conferences; and personal communication with authors.

Study selection and assessment: randomised controlled trials (RCTs) that compared psychological interventions (cognitive behaviour therapy (CBT), relaxation therapy, hyperventilation control, or other psychotherapy, talking, or counselling therapy) with standard care, an attention placebo, or no intervention in patients with non-specific chest pain, atypical chest pain, or syndrome X and normal coronary anatomy. Patients receiving drug treatment for psychiatric disorders were excluded. Individual study quality was assessed based on randomisation, allocation concealment, blinding, and loss to follow up.

Outcomes: significant reduction in chest pain (pain intensity measured by categorical or visual analogue scales, or mean difference in pain scores or frequency of exacerbation).

MAIN RESULTS

8 RCTs (403 outpatients) met the selection criteria. Interventions assessed were CBT; brief nurse intervention, relaxation training, and breathing retraining. Follow up ranged from 3–36 months, and 5 trials had >80% follow up.

Meta-analysis using a fixed effects model showed that more patients who received psychological interventions (specifically CBT) had reductions in chest pain than those in the control group at 3 months and at 3–9 months (table). Similar results were found using a random effects model. Meta-analysis of 2 trials (n = 81) also showed that patients who received psychological interventions had a greater increase in chest pain free days at ≤3 months (standardised mean difference (SMD) 0.85, 95% CI 0.38 to 1.31).

Meta-analysis using a fixed effects model showed that patients who received CBT or guided re-breathing had greater reductions in chest pain frequency than those in the control group at 3 months (5 trials, n = 201, SMD = −0.87, CI −1.18 to −0.57) and at 3–9 months (3 trials, n = 124, SMD = −0.43, CI −0.79 to −0.07). However, analysis using a random effects model did not find significant differences between groups (SMD −0.83, CI −1.77 to 0.12 at 3 mo; −0.36, CI −0.90 to 0.18 at 3–9 mo).

CONCLUSIONS

Limited evidence exists on the effectiveness of psychological interventions for patients with non-specific chest pain and normal coronary anatomy. Some evidence suggests that cognitive behaviour therapy may reduce chest pain for up to 3–9 months.

Cognitive behaviour therapy (CBT) v control in patients with non-specific chest pain and normal coronary anatomy

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Number of trials [n]</th>
<th>CBT</th>
<th>Control</th>
<th>RRR (95% CI)</th>
<th>NNT (CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest pain at 3 months</td>
<td>3 (172)</td>
<td>64%</td>
<td>93%</td>
<td>32% [19 to 43]</td>
<td>4 [3 to 6]</td>
</tr>
<tr>
<td>Chest pain at 3–9 months</td>
<td>2 (111)</td>
<td>54%</td>
<td>93%</td>
<td>42% [24 to 55]</td>
<td>3 [2 to 5]</td>
</tr>
</tbody>
</table>

*Abbreviations defined in glossary; weighted event rates, RRR, NNT, and CI calculated from data in article.