Antidepressants for non-specific low back pain (2008)

Donna M Urquhart, Jan L Hoving, Willem JJ Assendelft, Martin Roland, Maurits W van Tulder
Overview of the study

Objectives
• To determine whether antidepressants are more effective than placebo for the treatment of non-specific low-back pain.

Methods
• Evidence current up to 11 November 2008
• Participants: Adult subjects with non-specific low-back pain
• Intervention: Any type of antidepressant *
• Outcomes measured
  - Primary outcomes: pain intensity, overall improvement, functional status, return-to-work
  - Secondary outcomes: physiological outcomes, generic functional status

* i.e. tricyclic and heterocyclic antidepressants, selective serotonin reuptake inhibitors, monoamine oxidase inhibitors and 'atypical' antidepressant
Results & Conclusion

- 10 trials included

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evidence/ Quality of evidence*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antidepressants</td>
<td>No clear evidence in reducing depression in chronic low back pain patients compared to placebo</td>
</tr>
<tr>
<td></td>
<td>Conflicting evidence in reducing pain intensity compared to placebo</td>
</tr>
</tbody>
</table>

⇒ There is no clear evidence that antidepressants are more effective than placebo in the management of patients with chronic low-back pain

* The GRADE approach was not used to assess quality of evidence.
Botulinum toxin injections for low-back pain and sciatica (2011)

Zeeshan Waseem, Chris Boulias, Allan Gordon, Farooq Ismail, Geoffrey Sheean, Andrea D Furlan
Overview of the study

Objectives
• To determine the effects of botulinum toxin injections in adults with low back pain (LBP)

Methods
• Evidence current up to 1 February 2010
• Participants: Adults (age >=18) with non specific LBP and/or sciatica (acute, subacute, or chronic)
• Intervention: All BoNT serotypes injected intramuscularly
• Outcomes measured
  - Primary outcomes: symptoms, disability, overall improvement or proportion of patients recovered, back-specific functional status, well-being
  - Secondary outcomes: physiological outcomes, satisfaction with care, adverse events, outcomes reported for different follow-up periods
Results & Conclusion

- 3 trials (123 participants) included:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evidence</th>
<th>Quality of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>BoNT injections</td>
<td>The treatment improved pain, function, or both better than saline injections</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>The treatment was better for pain and function compared to traditional acupuncture or steroid injections</td>
<td>Very low</td>
</tr>
</tbody>
</table>

⇒ There is a lack of evidence to confirm effectiveness of BoNT injections for patients with LBP
Injection therapy for subacute and chronic low-back pain (2008)

J Bart Staal, Rob de Bie, Henrica CW de Vet, Jan Hildebrandt, Patty Nelemans
Overview of the study

Objectives
• To determine if injection therapy is more effective than placebo or other treatments for patients with subacute or chronic low-back pain

Methods
• Evidence current up to 30 March 2007
• Participants: Adults (18 to 70 years) with LBP symptoms persisting for at least one month
• Intervention: Injection therapy
• Outcomes measured: Pain, a global measure of improvement, back-specific disability, generic health status or well-being, disability for work, patient satisfaction
Results & Conclusion

• 18 trials (1179 participants) included

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Evidence</th>
<th>Quality of evidence*</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Epidural injections</strong></td>
<td>No significant difference in effects between epidural corticosteroid injections and placebo injections, and other treatments</td>
<td>Limited</td>
</tr>
<tr>
<td></td>
<td>No significant difference in effects between epidural injections with local anaesthetics and other treatments</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Facet joint injections</strong></td>
<td>No significant difference in effects between facet joint injections with corticosteroids and placebo injections, and other treatments</td>
<td>Limited</td>
</tr>
<tr>
<td></td>
<td>Facet joint injections with lidocaine combined with peri-articular corticosteroid injections are more effective for short-term pain relief than facet joint injections with saline</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Local injections</strong></td>
<td>No significant difference in effects between local injections with corticosteroids and placebo injections; between local injections with anaesthetics and placebo injections</td>
<td>Moderate</td>
</tr>
</tbody>
</table>

⇒ There is insufficient evidence to support or refute the use of injection therapy for patients with subacute and chronic LBP
Overview of the study

Objectives
• To determine the efficacy of prolotherapy in adults with chronic low-back pain

Methods
• Evidence current up to 29 July 2009
• Participants: Adults (aged 18 years and over) with a history of non-specific low-back pain longer than three months
• Intervention: Prolotherapy
• Outcomes measured: Low-back pain, low-back-related disability, overall improvement or satisfaction with treatment, well-being, return-to work, physical examination, and side effects
Results & Conclusion

• Five trials (total 366 participants) included.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evidence</th>
<th>Quality of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolotherapy injections</td>
<td>No more effective than control injection for chronic low-back pain and disability</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Prolotherapy injections, given with spinal manipulation, exercise, and other therapies, are more effective than control injections for chronic low-back pain and disability</td>
<td>High</td>
</tr>
</tbody>
</table>

There is conflicting evidence that prolotherapy alone is not an effective treatment for chronic low-back pain but it may improve chronic low-back pain and disability when combined with spinal manipulation, exercise, and other co-interventions.

Pepijn DDM Roelofs, Rick A Deyo, Bart W Koes, Rob JPM Scholten, Maurits W van Tulder
Overview of the study

Objectives
• To assess the effects of NSAIDs and COX-2 inhibitors in the treatment of non-specific low-back pain and to assess which type of NSAID is most effective

Methods
• Evidence current up to 30 June 2007
• Intervention: One or more types of NSAIDs
• Participants: Adults (>=18 years) treated for non-specific low-back pain with or without sciatica
• Outcomes measured
  - Primary outcomes: pain intensity, global measure, back pain-specific functional status, return-to-work, side effects
  - Secondary outcomes: physiological outcomes, functional status
Non-steroidal anti-inflammatory drugs

Roelofs et al. [2008]

Results & Conclusion

• 65 trials (11,237 participants) included.

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evidence</th>
<th>Quality of evidence*</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSAID</td>
<td>NSAIDs are not more effective for pain relief and global improvement compared to paracetamol for acute LBP</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>NSAIDs are not more effective than other drugs for acute LBP</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Various types of NSAIDs including COX-2 NSAIDs equally effective for acute LBP</td>
<td>Strong</td>
</tr>
</tbody>
</table>

⇒ Evidence suggests that NSAIDs are effective for short-term symptomatic relief in patients with acute and chronic low-back pain without sciatica, yet no specific type of NSAID is clearly more effective than others.

* The GRADE approach was not used to assess quality of evidence.
Opioids compared to placebo or other treatments for chronic low-back pain (2013)

Luis Enrique Chaparro, Andrea D Furlan, Amol Deshpande, Angela Mailis-Gagnon, Steven Atlass, Dennis C Turk
Overview of the study

Objectives
• To determine the efficacy of opioids in adults with chronic low-back pain (CLBP)

Methods
• Evidence current up to 31 October 2012
• Participants: Adults (>= 18 years of age) with a duration of low back pain at least 12 weeks
• Intervention: Use of opioids administered alone or in combination with other interventions
• Outcomes measured:
  - Primary outcomes: pain, function, patient satisfaction or QOL improvements, proportion of patients reporting 30% or 50% pain relief
  - Secondary outcomes: work-related disability, treatment-related adverse effects
Results & Conclusion

• 15 trials (5540 participants) included

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Evidence</th>
<th>Quality of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tramadol</td>
<td>Better than placebo for pain</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Better than placebo for function</td>
<td>Moderate</td>
</tr>
<tr>
<td></td>
<td>Little difference for pain compared to celecoxib</td>
<td>Very low</td>
</tr>
<tr>
<td>Transdermal</td>
<td>-Little difference for pain</td>
<td>Very low</td>
</tr>
<tr>
<td>buprenorphine</td>
<td>-No difference for function compared to placebo</td>
<td></td>
</tr>
<tr>
<td>Strong opioids *</td>
<td>Better than placebo for pain and function</td>
<td>Moderate</td>
</tr>
<tr>
<td>Opioids</td>
<td>No difference between opioids and antidepressants for either pain or function</td>
<td>Very low</td>
</tr>
</tbody>
</table>

⇒ There is some evidence for short-term efficacy of opioids to treat CLBP compared to placebo

* Morphine, Hydromorphone, Oxycodone, Oxymorphone, Tapentadol