Issues in chronic pain after spine surgery microendoscopic v.s. open surgeries

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[CDI開示] 今回の発表に関連し、開示すべきCOI関係にある企業などはありません。

Chronic pain 2013/9/7
Purpose

• The purpose of this study was to investigate usage of medicine for acute and chronic pain relief after spine surgery.

Background

• Tramadol/paracetamol 37.5 mg/325 mg (Tramacet, Zaldiars, Ixprim, Kolibri) is indicated in the EU for the symptomatic treatment of moderate to severe pain, including postoperative pain after spine surgery. (Dhillon S. 2010)
Materials & Methods

• From March 2012 to June 2012, spine surgeries were performed in 428 patients with cervical and lumbar degenerative disorders.

• All patients took non-steroidal anti-inflammatory drugs (NSAIDs) postoperatively.

• Postoperative patient controlled analgesia (PCA) was used for cervical laminoplasty and ME-PLIF.

• NRS > 5 → Tramacet (4 times per day)
• 34 out of 428 patients needed additional dosages of TRAMACET® tablets instead of NSAIDs.
<table>
<thead>
<tr>
<th>Procedures</th>
<th>Pt (n)</th>
<th>No. of Tramcet (n)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cervical ASF</td>
<td>11</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>BKP</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Disc-Fx/enSpire/PLDD</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cervical laminoplasty</td>
<td>6</td>
<td>3</td>
<td>50.0</td>
</tr>
<tr>
<td>MECD/MECL</td>
<td>33</td>
<td>3</td>
<td>9.1</td>
</tr>
<tr>
<td>MED</td>
<td>178</td>
<td>9</td>
<td>5.1</td>
</tr>
<tr>
<td>MEL</td>
<td>105</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>PELD</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Microendoscopic PLIF (ME-PLIF)</td>
<td>63</td>
<td>15</td>
<td>23.8</td>
</tr>
<tr>
<td>Others (1 infection case)</td>
<td>7</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td>Total (open surgery)</td>
<td>428</td>
<td>34</td>
<td>7.9</td>
</tr>
</tbody>
</table>
Tramace medication after each spine surgery

Cervical ASF: 0.0%
BKP: 0.0%
Cervical laminoplasty: 0.0%
MECO/MEOCL: 50.0%
MED: 9.1%
MEL: 5.1%
PELD: 2.9%
ME-PLIF: 0.0%
Others: 23.8%

Chronic pain 2013/9/7
### Tramacet medication and postoperative hospitalization

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Pre &amp; post administration</th>
<th>Post administration</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laminoplasty</td>
<td>10.0</td>
<td>9.0</td>
<td></td>
</tr>
<tr>
<td>MECD</td>
<td>6.5</td>
<td>5.0</td>
<td></td>
</tr>
<tr>
<td>MED</td>
<td>7.8</td>
<td>5.5</td>
<td></td>
</tr>
<tr>
<td>MEL</td>
<td>8.0</td>
<td>6.2</td>
<td></td>
</tr>
<tr>
<td>ME-PLIF</td>
<td>13.2</td>
<td>13.0</td>
<td></td>
</tr>
</tbody>
</table>

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Postoperative Tramacet medication in 34 cases

(wks) On medication ★ Preop medication ★ discontinue

Chronic pain 2013/7/7
Tramacet medication and its side effects

Total 428

Tramacet administration
34

Postoperative patient controlled analgesia (PCA)
19

Discontinuation for side effects
3 (8.8%)

Pre & postoperative Tramacet medication
8
Medication after discontinuation of Tramacef

1. ME-PLIF  Pregabalin 50mg/d + Clonazepam 0.5mg/d

2. ME-PLIF  Buprenorphine 10mg/w for 3 weeks

3. SSI (ME-PLIF)  Buprenorphine 10mg/w for 3 months

2012/2/24  ME-PLIF (3/8 leaving hospital)
2012/3/22  WBC 8700  CRP 15.89  BT 38.1°C
2012/3/28  PELD for removal of abscess
2012/4/4  Removal of Milestone
2012/4/18  Removal of PS (5/23 leaving hospital)

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Tramacet medication and its effects

Total 428

Tramacet 34

Discontinuation for side effects 3

Pain relief 26 (mean 6.9 wks)

On medication 5 (mean 32 wks)
- Cervical laminectomy 1
- Cervical foraminotomy 1
- MED 1
- 2-level PLIF 1
- Revision PLIF 1

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On medication in 5 cases

5 out of 34 continued taking tramadol more than postoperative 6 months.

1. Cervical laminectomy          dural tear
2. Cervical foraminotomy        preoperative severe pain
3. MED                          dural tear
4. 2-level PLIF                Multi-level fusion
5. Revision PLIF               Revision for non-union
Tramadol/paracetamol fixed-dose combination: a review of its use in the management of moderate to severe pain.
Dhillon S. (Clin Drug Investig. 2010;30(10):711-38)

Single- or multiple-dose tramadol/paracetamol was effective in patients with postoperative pain, subacute lower back pain. Tramadol/paracetamol is a useful treatment option for providing multimodal analgesia in patients with moderate to severe pain.

Domestic clinical test at time of recognition in Japan (based on the medicinal action of opioid)

Nausea 41.4% vomiting 26.2% drowsiness 25.9%
constipation 21.2% unsteadiness giddiness 18.9%
<table>
<thead>
<tr>
<th>Procedure</th>
<th>Percentage</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revision PLIF</td>
<td>100%</td>
<td>Open</td>
</tr>
<tr>
<td>Infection PLIF</td>
<td>100%</td>
<td>Open</td>
</tr>
<tr>
<td>Cervical laminoplasty</td>
<td>50.0%</td>
<td>Open</td>
</tr>
<tr>
<td>ME-PLIF</td>
<td>23.8%</td>
<td>Microendoscopic</td>
</tr>
<tr>
<td>MECD/MECL</td>
<td>9.1%</td>
<td>Microendoscopic</td>
</tr>
<tr>
<td>MED</td>
<td>5.1%</td>
<td>Microendoscopic</td>
</tr>
<tr>
<td>MEL</td>
<td>2.9%</td>
<td>Microendoscopic</td>
</tr>
<tr>
<td>PELD</td>
<td>0%</td>
<td>Microendoscopic</td>
</tr>
<tr>
<td>Cervical ASF</td>
<td>0%</td>
<td>Open</td>
</tr>
<tr>
<td>BKP</td>
<td>0%</td>
<td>Percutaneous</td>
</tr>
<tr>
<td>Disc-Fx/enSpire/PLDD</td>
<td>0%</td>
<td>Percutaneous</td>
</tr>
</tbody>
</table>

Chronic pain 2013/9/7
Conclusion

• NSAID was effective in most of patients with postoperative moderate pain after spine surgeries.

• Tramacet medication instead of NSAID was effective in patients with postoperative severe pain.

• The discontinuation rate of Tramacet was 8.8 % for side effect.

• Most patients who were on Tramacet medication more than 6 months had preoperative severe pain, dural tear or non-union.