Comparison of trigger point injections versus traditional therapies in the management of post-surgical pain in patients who had anterior cervical surgery: A Retrospective Study

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Introduction/Background

- Opioid epidemic – public health crisis
- Emphasis on non-opioid multimodal pain control

- Anterior cervical surgery (ACS)
  - Post-op posterior neck stiffness and myofascial pain

- Trigger point injections (TP) w/ local anesthetic
  - Kamanli et al. (2005)
  - Raeissadat et al. (2018)
  - Lugo et. Al (2016)
Hypothesis Tested

• Objective
  • TP w/ bupivacaine vs traditional pain control therapies

• Hypothesis
  • For patients undergoing ACS, TP w/ bupivacaine will decrease their post-op myofascial pain thereby decrease the overall amount of opioid medication used
Methods

- Single-center retrospective chart review of all ACS cases (Jan ‘19 - Mar ‘20)
- 2 groups:
  - Trigger point injections (TP) vs Standard care (SC)
- Primary outcomes
  - Pain control via Visual Analog Scale (VAS)
  - Oral Morphine Equivalents (OME) @ 6, 12 & 24h post-op

- Exclusion criteria:
  - TP >3h from surgery
  - In recovery for opioid use disorder
  - Poster cervical surgery
  - Trauma
Results

• Reviewed 137 patients ACS: 100 SC vs 37 TP, 62 excluded
• 75 (47 SC, 28 TP) included in study

Table 1. Primary outcomes of anterior cervical surgery patients receiving postoperative standard pain control versus trigger point injection at multiple time points.

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Standard Care (n=47)</th>
<th>Trigger Point Injection (n=28)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>OME</td>
<td></td>
<td></td>
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<tr>
<td>6 hours</td>
<td>32±2.8 (n=47)</td>
<td>22±3.0 (n=28)</td>
<td>0.025*</td>
</tr>
<tr>
<td>12 hours</td>
<td>54±5.1 (n=29)</td>
<td>37±10.5 (n=9)</td>
<td>0.18</td>
</tr>
<tr>
<td>24 hours</td>
<td>78±7.1 (n=27)</td>
<td>58±18.9 (n=6)</td>
<td>0.35</td>
</tr>
<tr>
<td>VAS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 hours</td>
<td>3.4±0.4 (n=47)</td>
<td>3.3±0.4 (n=28)</td>
<td>0.78</td>
</tr>
<tr>
<td>12 hours</td>
<td>5.3±0.6 (n=29)</td>
<td>4.2±1.3 (n=9)</td>
<td>0.45</td>
</tr>
<tr>
<td>24 hours</td>
<td>5.4±0.6 (n=27)</td>
<td>3.2±1.5 (n=6)</td>
<td>0.21</td>
</tr>
</tbody>
</table>

Data presented as Mean±Standard Deviation, * p-value was <0.05
Discussion/Conclusion

• TP w/ bupivacaine significantly reduce opioid consumption within 6 hours post-op
  • w/o increasing overall pain level
  • Role for TP in multimodal pain regimens

• Limitations:
  • Retrospective
  • Small number of study participants
  • Many patients discharged before 18 hours
  • Chronic pain therapy
• Future Directions → prospective randomized control study
References


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