Ondansetron, Dexamethasone, and the P6 Acupressure Band for the Treatment of Spinal-Induced Nausea and Vomiting: A Multimodal Approach

Abstract Type: Original Research
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Introduction: The incidence of intraoperative nausea and vomiting (IONV) and postoperative nausea and vomiting (PONV) after spinal anesthesia ranges from 12 to 79% (1). Dexamethasone, ondansetron, and acupressure at the P6 point have each shown varying efficacy for the prevention or treatment of spinal-induced IONV and PONV during cesarean delivery (1,2,3,4). To our knowledge, there is no study to evaluate the additive effects of these antiemetics in the obstetric population. We hypothesized that a multimodal approach combining dexamethasone, ondansetron, and the P6 acupressure band would have additive efficacy for the reduction of IONV and PONV after spinal anesthesia for cesarean delivery.

Methods: After IRB approval, 38 parturients scheduled for primary or repeat elective cesarean delivery were recruited and randomly assigned to one of four groups: placebo (PL), dexamethasone (D), dexamethasone and ondansetron (D/O), or dexamethasone, ondansetron, and P6 acupressure band (D/O/P). Rescue doses of antiemetics included metoclopramide 10 mg IV or promethazine 12.5 mg IV. Anesthesia providers were blinded to the study. All test pharmacologic agents were given in the following doses: ondansetron 4 mg IV, dexamethasone 8 mg IV. Treatment of hypotension was left to the discretion of the blinded anesthesia care provider, and doses of ephedrine or phenylephrine were recorded. The primary outcome was the incidence of nausea and vomiting in the 24 hours after cesarean delivery.

Results: The incidence of IONV and PONV at one, six and 24 hours after spinal anesthesia was not significantly reduced in any of the three treatment groups compared to placebo (Table 1). The addition of a P6 acupressure band did not reduce the incidence of IONV or PONV compared to placebo or groups not assigned to wear a P6 acupressure band.

Discussion: Our preliminary Results indicate no additive effect from the combination of dexamethasone, ondansetron, and the P6 acupressure band for the prevention of IONV and PONV during cesarean delivery under spinal anesthesia. However, the study is currently underpowered to detect a potential effect, and recruitment is ongoing. An approach that reduces the incidence of IONV or PONV in this population even modestly may have substantial impact on patient satisfaction.

References:

Table 1

<table>
<thead>
<tr>
<th>Groups</th>
<th>Time after spinal anesthesia (hours)</th>
<th>p (n=38)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL, D, D/O, D/O/P</td>
<td>&lt; 1</td>
<td>0.668</td>
</tr>
<tr>
<td>PL, D, D/O, D/O/P</td>
<td>1 - 6</td>
<td>0.775</td>
</tr>
<tr>
<td>PL, D, D/O, D/O/P</td>
<td>6 - 24</td>
<td>0.149</td>
</tr>
</tbody>
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(PL, D, D/O) vs D/O/P | < 1 | 0.726 |
(PL, D, D/O) vs D/O/P | 1 - 6 | 1.0 |
(PL, D, D/O) vs D/O/P | 6 - 24 | 0.411 |

PL = Placebo  D = Dexamethasone  O = Ondansetron  P = P6 Acupressure Band