COMPARISON of CAUDAL NEURAXIAL BLOCK VERSUS DORSAL PENILE NERVE BLOCK for POSTOPERATIVE PAIN CONTROL in PEDIATRIC PATIENTS UNDERGOING CIRCUMCISION

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INTRODUCTION

- Circumcision is a common elective pediatric procedure. Given the location of the surgical site, both caudal and dorsal penile nerve blocks (DPNB) are viable options for postoperative pain control.
- Some research indicates no difference or advantage of the caudal compared to the DPNB.\(^1\)\(^,\)\(^2\) Thus, it remains unclear as to which technique is more efficacious.
- In our institution there remains variation; therefore, comparing these techniques will provide valuable information in helping us achieve a more standardized approach agreed upon by both the anesthesia and surgical staffs.

AIM

- The aim of this study was to compare the efficacy of caudal versus DPNB for postoperative pain control in pediatric patients undergoing circumcision.

METHODS

- We performed a retrospective chart review on pediatric patients who received a caudal or DPNB for postoperative pain control after circumcision between January 2010 - December 2011. Inclusion criteria included:
  - ASA 1 or II
  - 6 months to 2 years old
  - Full term (>37 weeks)
  - Medication history did not reveal use of opiates
  - Caudal or DPNB occurred prior to surgical incision

RESULTS

- A total of 50 subjects are included in the analysis (25 in the Caudal group and 25 in the DPNB group).

Table 1. Demographics and intraoperative narcotic use

<table>
<thead>
<tr>
<th></th>
<th>Caudal (N=25)</th>
<th>DPNB (N=25)</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (months)</td>
<td>Mean (± sd)</td>
<td>Range</td>
<td>Mean (± sd)</td>
</tr>
<tr>
<td></td>
<td>16.1 (3.8)</td>
<td>12-23</td>
<td>12.2 (6.6)</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>Mean (± sd)</td>
<td>Range</td>
<td>Mean (± sd)</td>
</tr>
<tr>
<td></td>
<td>10.9 (1.9)</td>
<td>7.1-14.5</td>
<td>9.6 (1.9)</td>
</tr>
<tr>
<td>Total intraop opioids (mcg/kg)</td>
<td>Mean (± sd)</td>
<td>Range</td>
<td>Mean (± sd)</td>
</tr>
<tr>
<td></td>
<td>.37 (.57)</td>
<td>0-1.92</td>
<td>1.1 (1.0)</td>
</tr>
</tbody>
</table>

Table 2. Postoperative outcomes between the groups

- Caudal group was significantly older and weighed more, and the DPNB group received significantly more intraoperative opioids (mcg/kg), Table 1.

DISCUSSION

- Despite previous studies showing no difference in outcomes, our study showed significant advantage of performing a caudal for children undergoing circumcision. Intraoperative as well postoperative narcotic requirement is less with the caudal group. PACU pain scores and recovery room stay are both significantly lower in the caudal group. There were no complications observed in both groups.
- Based on this study, we therefore, recommend performing caudal for children (<2 years old) undergoing circumcision.

REFERENCES