ABSTRACT: BACKGROUND: Pain relief in labour is associated with myths and controversies. Providing effective and safe analgesia has remained a challenge. **AIM:** The purpose of the study was to compare the effect of analgesia with epidural bupivacain or ropivacain along with dexmeditomidine. **METHODS AND MATERIAL:** Sixty parturients of ASA grade I and II were randomly selected for the study. Each group consisted of thirty patients. The analgesia, motor loss and level of sedation were studied. **RESULTS:** There was no significant difference between the two groups in maternal satisfaction, analgesia and neonatal outcome. **KEYWORDS:** Epidural, Labour analgesia, Bupivacain, Ropivacain, Dexmeditomidine.

**INTRODUCTION:** Labour analgesia is thought to be associated with undesirable effects of prolonging labour, requiring large doses of oxytocin, increased instrumental or operative deliveries and post-partum backache. Despite the controversies, the number of women seeking labour analgesia has gone up - 25% in UK and 66% in USA.(1)

**METHODS AND MATERIAL:** After taking institutional ethical committee approval and written consent from the patients a prospective study was done on sixty parturients for labour analgesia. They were randomly selected, of ASA grade I and II, singleton, with vertex presentation. Each group consisted of thirty parturients - Bupivacain-Dexmeditomidine (B) and Ropivacain-Dexmeditomisine (R). Exclusion criteria were patients not willing for study, ASA III and above, obstetric complications, cardiovascular diseases allergic disorders, short stature extremely obese, previous LSCS, etc.

A bolus dose of ten millilitres of the blinded drug, either bupivain 0.125% with dexmeditomidine 12 micrograms or ropivacain 0.125% with dexmeditomidine 12 micrograms was given after testing for accidental intrathecal placement of catheter. Efficacy of analgesia was assessed using Visual Analogue Pain Score, motor block, overall satisfaction and haemodynamic parameters.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Group B</th>
<th>Group R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean Age (years)</td>
<td>24 +/- 4</td>
<td>23 +/- 4</td>
</tr>
<tr>
<td>Mean weight (kgs)</td>
<td>66 +/- 5</td>
<td>65 +/- 5</td>
</tr>
<tr>
<td>Mean Height (Cms)</td>
<td>158 +/- 6</td>
<td>159 +/- 6</td>
</tr>
<tr>
<td>Gestational Age (Weeks)</td>
<td>38.5 +/- 1</td>
<td>39 +/- 1</td>
</tr>
<tr>
<td>Multigravida</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Primigravida</td>
<td>07</td>
<td>05</td>
</tr>
<tr>
<td>Duration of labour (mins)</td>
<td>428</td>
<td>423</td>
</tr>
</tbody>
</table>

Table 1: Characteristics of the Patients
S.V.D. 68% 62%  
Instrumental 26% 32%  
LSCS 06% 06% 
Table 2: Mode of Delivery

<table>
<thead>
<tr>
<th>Pain Free at 30 mins</th>
<th>86%</th>
<th>84%</th>
</tr>
</thead>
</table>
Table 3: Quality of Analgesia

| Normal | 56% | 48% |
|        |     |     |
| Moderate | 38% | 48% |
| Severe | 06% | 04% |
Table 3: Quality of Analgesia

Sedation score of all the patients was zero, i.e. all were awake.

**STATISTICAL ANALYSIS:** Unpaired Student t test and Chi Square test were done. Differences were considered significant when p value was <0.95.

**RESULT:** None of the patients had inadvertent dural puncture, nor withdrawn from the study nor needed extra top up. No difference existed in patient characteristics, mode of delivery, or significant difference in pain relief between the two groups.

**DISCUSSION:** Epidural analgesia provides rapid pain relief and more effective than nitrous oxide, opioids, TENS and other modalities of analgesia during childbirth.\(^{(2)}\) The medication levels are very low to decrease the side effects on the mother and baby.\(^{(3)}\) Bupivacain provides excellent analgesia in labour, but causes motor block in concentration of 0.25% or more. Large doses cause cardiovascular and neurological toxicity when administered accidentally intravenously. A meta-analysis shows that there is no significant difference between bupivacain and ropivacain.\(^{(4)}\)

Ropivacain has the advantage of less motor block, high quality of analgesia and maternal satisfaction than bupivacaine.\(^{(5)}\) 0.2% Ropivacain produces better stage I analgesia than bupivacain which may be due to longer duration of ropivacain.\(^{(6)}\) In a comparison between the two drugs, Writer et al concluded that there was an increased incidence of spontaneous vaginal delivery and less motor block with ropivacain.

Dexmeditomidine, a highly selective alpha 2 agonist has analgesic, sedative, sympatholytic, anaesthetic sparing drug. Intra venous PCA prolonged the duration of epidural labour analgesia without placental transfer and good neonatal outcome.\(^{(7)}\) Addition of dexmeditomidine to caudal analgesia significantly prolonged the duration compared to bupivacain alone.\(^{(8)}\)

Bupivacain-Dexmeditomidine epidural analgesia showed better maternal satisfaction compared to bupivacain-fentanyl, without deleterious effects on the utero placental circulation and neonatal outcome.\(^{(9)}\)
REFERENCES:
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