

LABOUR ANALGESIA: EPIDURAL DEXMEDITOMIDINE WITH EITHER BUPIVACAINE OR ROPIVACAINE

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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 dexmedetomidine. **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, Dexmedetomidine.

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-Dexmedetomidine (B) and Ropivacain-Dexmedetomidine (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 bupivacain 0.125% with dexmedetomidine 12 micrograms or ropivacain 0.125% with dexmedetomidine 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.

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

Table 1: Characteristics of the Patients

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S.V.D.	68%	62%
Instrumental	26%	32%
LSCS	06%	06%

Table 2: Mode of Delivery

Pain Free at 30 mins	86%	84%
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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% Ropivacaine 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 etal concluded that there was an increased incidence of spontaneous vaginal delivery and less motor block with ropivacin.

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:

1. Elizebeth Mc Grady and Kerry Litchfield BJA: CEACCP Vol. 4, Issue \$ Pp114_ 117.
2. Parpaglioni R, Capogna C, Celleno D; Int J of Obst Anaesth 2000; 9, 8386.
3. Kostopanagiotou G, Kyroudi S Panidis Drelia P et al: Surgical Infections3 (4) 359-65.
4. Writer WD, Stienstra R, Eddelston JM et al BJA 1998, 811713-717.
5. Buckley, Sarah: Mothering No.133 Retrieved 18.4.2014.
6. Bockway MS, Bannister J, McClure JW, Woldsmith JAW- BJA 1991; 66:31_37.
7. A. Palanisamy, RJ Klickwich, M Ramsay, DW OU Yang, LV Tsen Int J Obst Anesth 200918(3) 258261.
8. AM El Hannawy, AM Abd Elwabab, AM abd Elmaksoud et al BJA103 (2)268-274.
9. Mohamed Foued, Salim Ali Mohamed Ali Elnabtity, Ali mohamed Ali Hasan; J of Prenat Medicine 2012; 6(3), 47-54.

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