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To compare the effect of programmed labour with epidural analgesia on maternal outcome

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Abstract

Background: To compare the effect of programmed labour with epidural analgesia on maternal outcome

Methods: In our study, 80 parturient females fulfilling the inclusion criteria were taken. They were divided into two groups of 40 patients each by block randomization method to study and compare the effect of programmed labour with epidural analgesia on maternal and foetal outcome for a period of one year. The group 1 was administered programmed labour analgesia which included injection Pentazocine 6 mg IV +Inj Diazepam 2 mg I.V +Inj. Tramadol 1-1.5mg/kg I.M thereafter a single dose of injection Drotaverine 40 mg I.V. whereas group 2 received epidural analgesia

Results: No patients in either group had serious complications however mild complications were more in group 1 and seen in 14% Vs 3% in group 2. Most common side effects in both group was nausea and vomiting. The side effects were not very troublesome or life threatening .They could be easily managed symptomatically

Conclusion: Neonatal outcome were comparable in both groups.

Keywords: Neonatal outcome, labour, nausea, vomiting.

Introduction

During vaginal delivery, pain arises from stimuli from lower genital tract. Myelinated A delta fibres which are fast conducting transmit stimuli associated with second stage of labor, resulting in somatic pain. These stimulus undergo modulation before arriving at the cerebral cortex and are perceived as a pain which is sharp and burning in nature. This pudendal nerve transmits these impulses; the peripheral branches of pudendal nerve provide sensory innervations to the perineum, anus and more medial and inferior part of clitoris and vulva. The ideal technique for labor analgesia should; provide rapid, effective, economical and safe pain relief for all stages of labor without compromising fetal vital physiology and wellbeing. It should not hamper the normal process of labor and should be flexible enough to convert to anaesthesia for urgent operative delivery or other intervention. Such an ideal technique would leave the mother awake, alert, comfortable and able to bear down and if desired, even ambulate throughout labour.[1-2]

Material and Methods

Type of Study: This randomized Interventional clinical trial was conducted in department of Anaesthesia at Kamla Nehru State Hospital for Mother and Child, Indira

Gandhi medical College Shimla in collaboration with Department of Anaesthesia.

Inclusion Criteria

- Age 18- 40 years
- Pre pregnancy BMI- 18.5 to 24.9 Kg/m2
- Singleton pregnancy with vertex presentation with spontaneous or induced labour after 34 weeks.
- Cervix dilatation 4-6cm and effacement 20-50 percent.
- Presence of regular uterine contraction.
- Reactive NST.
- Pre rupture of membrane less than 6 hours
- Pre-eclampsia with non-severe features
- Clear liquor after Artificial Rupture Of Membrane

Exclusion criteria

- Malpresentation
- Cephalopelvic disproportion
- Preterm labour less than 34 weeks
- Intrauterine death
- Previous lower segment caesarean section and placenta praevia
- Medical Disorders complicating pregnancy excluding preeclampsia with non-severe feature
- Foetal compromise before epidural analgesia
- Previous back surgery, spinal deformity
- Bleeding disorders
- History of psychiatric disorders, drug allergy.

In our study, 80 parturient females fulfilling the inclusion criteria were taken. They were divided into two groups of 40 patients each by block randomization method to study and compare the effect of programmed labour with epidural analgesia on maternal and foetal outcome for a period of one year. The group 1 was administered programmed labour analgesia which included injection Pentazocine 6 mg IV +Inj Diazepam 2 mg I.V +Inj. Tramadol 1-1.5mg/kg I.M thereafter a single dose of injection Drotaverine 40 mg I.V. whereas group 2 received epidural analgesia

Study Drug : 15 ml of ropivacaine 0.2% with 2 µg/ml fentanyl (2 µg /ml of fentanyl will be taken by using six parts from a tuberculin syringe graduated in markings to divide 1 ml (50 mcg/ml) into 10 parts and added to 15 ml of ropivacaine to achieve a final concentration of fentanyl i.e. 2 mcg/ml).

The time of injection will be noted and patient will be kept in supine position for 10 minutes .Effect of Epidural analgesia will be recorded at 5 minutes, 15 minutes and then at every 15 minutes for 1 hour and every 30minutes till VAS Score becomes less than 3, this will be noted as onset of analgesia and ambulation grading will be done.

Rescue analgesia will be given in the form of injection ketamine 0.25% -0.5mg/kg will be given intravenously in group one only in selected cases at cervical dilation of 7-8 cm and patient complaining of pain, subsequent doses will be half of the first dose and interval between two doses will be 30 minutes required.

Data Analysis

Data collected from patient's records and from the irimaging will be transferred into MS Excel sheet for further processing and analysis. Data will be further analysed using stastical software. Epiinfo version 4 and SPSS version 20. Qualitative variables will be expressed in term of frequencies, proportion and 95% confidence interval while quantitative variables will be expressed as mean and standard deviation. In order to compare results between two study groups appropriate parametric or non-parametric test of statistical significance will be used. Probability value (p-value) less than 0.05 will be considered statistically.

Results

Table 1: Maternal outcome

Maternal complication	Group-1		Group-2	
	N= 40	(100%)	N=40	(100%)
No	26	65	37	92.5
Nausea /vomiting	7	17.5	3	7.5
Tachycardia	0	0	0	0
Drowsiness	3	7.5	0	0
Dryness of mouth	4	10	0	0

No patients in either group had serious complications; however mild complications were more in group 1 and seen in 14% Vs 3% in group 2. Most common side effects in both group was nausea and vomiting. The side effects were not very troublesome or life threatening. They could be easily managed symptomatically

Discussion

No patients in either group had serious adverse effects. Incidence of nausea and vomiting is similar to that observed in a study conducted by Meena jyothi et al (2008) and Shahida M and Razia (2011) studies. In our study, most common side effect was nausea and vomiting. Similar side effects seen in Varsha deshmulh et al study (2018).However the side effects in our study were not life threatening and could be managed with symptomatic treatment. It did not affect the progress of labour in both groups. Thus , both programmed labour and epidural administered opioids provide promise as ideal analgesics for labour because of their selective effect of epidural analgesia on perception of pain and sparing of motor, autonomic and other sensory modalities

Conclusion

Maternal outcome were comparable in both groups

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