



To compare the effect of programmed labour with epidural analgesia on duration of active phase of first stage

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Abstract

Background: To compare the effect of programmed labour with epidural analgesia on duration of active phase of first stage

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: On comparing the age , Majority of the patients (90%) were in the age group of 20-30 years in both groups. The mean age of the women in the group 1 was 26.5 years as compared to 26.9 year in group 2. There was no statistically significant difference between group 1 and group 2. Regarding the duration of active phase of labour, In our study, In group 1 duration of active phase of 1 stage of labour was 215 min, and in group 2 it was 204 minutes with

standard deviation of 32 minutes in group 1 and 40.4 minutes in group 2 respectively. Using student ‘t’ test this difference was found to be significant statistically. (P value <0.005)

Conclusion: Duration of active phase of 1 stage of labour statically less in group-1 as compare to group-2.

Keywords: Active phase, Labour, Age

Introduction

In first stage of labor, pain is primarily transmitted by unmyelinated C fibres, which are slowly conducting and constitutes visceral pain, which gets modulated at the level of dorsal horn of spinal cord grey matter. Visceral pain is typically dull aching in character .The fibres travel in lumbar and lower thoracic sympathetic chains to enter the spinal cord through the white rami communicates associated with the T10 through T12 and L1 nerves. The pain of uterine contractions in early labor pains is transmitted mainly through the T11 and T12 nerves. The motor pathways to the uterus leave the spinal cord at the level of T7 and T8 vertebrae. Therefore, any modality of sensory blockade that does not block and does not affect the motor pathways to uterus can be used for labor analgesia¹⁻³

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 patient 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: Demographic profile

Variable	Group-I	Group-II	P-value
Age	26.51±3.4	26.92±3.9	>0.05
Primigravida	24:16	24:16	>0.05
Spontaneous : Induced	28:12	26:14	>0.05
Duration of active phase of 1 stage	215±32	204±40.4	<0.05

Discussion

In our study, in group 1 duration of active phase of 1 stage of Labour was 215 min, and in group 2 it was 204 minutes with standard deviation of 32 minutes in group 1 and 40.4 minutes in group 2 respectively. Using student 't' test this difference was found to be significant statistically. (P value <0.005)

Duration of the active phase of first stage of labour was similar when compared with study done by Nitin S et al, Daftary et al and Rehana Nazam (2018).

While it was less as compared to that of Konin Savita et al .This can be attributed to the fact that our study included patients at 4-6cm dilated while in Konin savita et al study, all patients were primiparae and included at 3-4 cm dilatation.

When compared to study by Veerandrakumar et al, our mean duration of active phase was more when compared to their study because most of the patients in their study were augmented with oxytocin.

In our study, the mean duration of active phase of labour was 204 minutes while it was comparatively less in a

study conducted by Najam R t et al (2018) .In a study conducted by Dipti et al (2014),they showed increased duration of first stage of labour when compared to our study in group receiving epidural group.This may be due to the use of ropivacaine 2% and fentanyl 50ug . More concentration of drug causing relaxation of pelvic musculature in Dipti et al study.

The duration of active phase of labour was more seen in Niteen arsule (2016) because the drug used and vidya et al (2015) because the study group were primigravidae in these studies while in our study ,the primiparae were only 60 % .

Conclusion

Duration of active phase of 1 stage of labour statically less in group-1 as compare to group-2.

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