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Original Research Article

TO COMPARE EPIDURAL INJ. BUPIVACAINE 0.125% AND INJ. ROPIVACAINE 0.2% TO STUDY THE SIDE EFFECTS OF DRUG IN MOTHER AND BABY

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Abstract

Background & Methods: the aim of the study is to compare epidural inj. Bupivacaine 0.125% and inj. Ropivacaine 0.2% to study the side effects of drug in mother and baby. Patients and relatives were explained about the procedure, advantages, disadvantages and the importance of their co-operation. Written and informed consent of the patient and their relatives was obtained. Patients were randomly divided into 2 groups of 60 each. Xylocaine sensitivity was done and all parturients were encouraged to empty their bladder.

Results: Both the groups showed no statistically significance (P>0.05) changes in pulse rate at any point of time from 0 minute till the time of delivery. Thus excluding the possibility of tachycardia and bradycardia. Both the groups showed no statistically significant (P>0.05) changes in systolic blood pressure at any point of time from 0 minute till the time of delivery.

Conclusion: Safe and effective methods for pain relief during labour are demanding and hence the present study was undertaken to find out the effect of different local anaesthetics on effectiveness of epidural analgesia in labour and on safety of mother and baby.

Keywords: Bupivacaine, Ropivacaine, side effects, mother & baby.

Study Design: Comparative Study.

1. Introduction

Pain has been a major concern of humankind since our beginnings. Prayers, exorcisms, and incantations bearing testimony to the prevalence and scourge of pain are found on Babylonian clay tablets, in papyri written in the days of pyramid builders, in Persian leather documents, in inscriptions from Mycenae and on parchment rolls from Troy[1].

The first authentic reference on the use of opium for pain relief is found in the writings of the Theophrastus who lived in the 3rd century B.C. Celsus mentions one of the first references to analgesic pills[2]. A century later, Galen suggested a natural basis of pain and wrote a book on pain and the analgesic effects of opium and Mandragora.

During the first 50 years of 20th century neuroanatomic, neurophysiologic and psychologic research on pain continued at progressively greater pace. The foundation of the International Association for the Study of Pain (IASP) in 1974 and publication of its Journal PAIN since 1975 must be considered among the most important developments in the field of pain research and therapy[3]. Chestnut et al and Vertonmea et al demonstrated that epidural analgesia with opioids did not increase the incidence of instrumental delivery & reduces the side effects of both local anaesthetics and opioids on the mother and foetus[4]. Obstetric

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anaesthesia has developed in last 150 years with technical and pharmacological advancement and new development in anaesthesia.

2. Material and Methods

Study was conducted at Index Medical College Hospital & Research Centre, Indore. Patients and relatives were explained about the procedure, advantages, disadvantages and the importance of their co-operation. Written and informed consent of the patient and their relatives was obtained. Patients were randomly divided into 2 groups of 60 each. Xylocaine sensitivity was done and all parturients were encouraged to empty their bladder.

Inclusion Criteria:

1. Age: 18-35 years.
2. Booked primi / multigravida with full term pregnancy (gestational age between 37-42 weeks).

Exclusion Criteria:

1. Patients not giving consent.
2. Allergic to local anaesthetic.
3. Bleeding diathesis.

3. Result

Table1: Age wise distribution of patients

Age Group	A	B	Total
15-19	06 10.0%	02 3.3%	08 6.7%
20-24	30 50.0%	36 60.0%	66 55.0%
25-29	20 33.3%	22 36.7%	42 35.0%
30-34	04 6.7%	00 .0%	04 3.3%
Total	60	60	120
Mean ±SD	23.03 ±1.378	22.43 ±3.609	22.73 ±2.008

P>0.05

Age wise distribution of cases in the two groups showed that patients ranged between 18-35 years of age. Maximum numbers of patients in both the groups were between 20-25 years of age group.

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Table 2: Comparison onset of analgesia (min) between the two groups

Group	Mean	±SD	No. of patients
A	17.18	1.214	60
B	23.09	2.039	60
Total	**19.12**	**3.975**	**120**

Group A showed mean onset of analgesia at 17.18 ± 2.214 min and group B had a mean onset of analgesia was 23.09 ± 3.039 min. The mean time of onset of analgesia was significantly more in group B as compared with group A. (P< 0.0001).

Table 3: Comparison of mean pulse rate changes in the two groups

Group		PR 0 min	PR 5 min	PR 10 min	PR 15 min	PR 20 min	PR 25 min	PR 30 min	PR 60 min	PR 90 min	PR 120 min	PR 150 min	PR 180 min	PR 210 min	PR 240 min
A	Mean	85.20	78.07	77.63	77.13	77.73	78.73	79.53	81.13	81.93	83.54	84.20	85.09	83.50	87.00
	± SD	6.20	4.32	5.20	3.85	2.61	2.85	2.45	2.56	2.80	2.49	4.10	2.74	1.00	1.41
	No. of pts	60	60	60	60	60	60	60	60	58	52	50	23	08	04
B	Mean	92.47	83.87	84.07	83.20	83.67	84.67	84.67	85.50	86.37	88.44	89.63	90.80	97.0000	
	± SD	6.68	7.82	6.53	5.96	5.99	5.66	5.42	5.44	5.36	6.40	6.84	7.29	1.41	
	No. of pts	60	60	60	60	60	60	60	60	60	50	16	10	04	

Both the groups showed no statistically significance (P>0.05) changes in pulse rate at any point of time from 0 minute till the time of delivery. Thus excluding the possibility of tachycardia and bradycardia.

Table 4: Comparison of mean systolic blood pressure changes in the two groups

Group		SBP 0min	SBP 5 min	SBP 10 min	SBP 15 min	SBP 20 min	SBP 25 min	SBP 30 min	SBP 60 min	SBP 90 min	SBP 120 min	SBP 150 min	SBP 180 min	SBP 210 min	SBP 240 min
A	Mean	131.6	128.0	127.6	123.6	124.07	120.80	120.9	123.00	123.45	124.08	122.48	123.45	124.0	124.0
	SD	5.52	5.28	6.16	5.70	7.76	4.77	4.54	4.60	5.01	9.01	4.33	4.74	6.00	2.83
	N	60	60	60	60	60	60	60	60	58	50	42	22	06	04
B	Mea	128.4	123	120.7	120.8	120.733	121.133	122.1	122.333	123.733	124.92	126.667	126	130	

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	n													
	SD	6.48	6.97	6.09	5.91	6.80	6.96	6.50	6.58	6.38	6.99	5.39	5.66	5.66
	N	60	60	60	60	60	60	60	60	60	50	18	10	04

Both the groups showed no statistically significant (P>0.05) changes in systolic blood pressure at any point of time from 0 minute till the time of delivery.

4. Discussion

A Study concluded in his study that spinal epidural analgesia with opioid and local anesthetic given in early labour did not increase the rate of instrumental deliveries or caesarean section. Sharma S K et al showed no such increase in instrumental deliveries[5]. Absences of any kind of instrumental delivery in both the groups in our study were comparable with the above study.

A study demonstrated in his study that there was an increase in instrumental deliveries after administration of oxytocin[6]. The mean time of onset on analgesia was less in group A with mean 16.17 min as compared with mean 22.07 min in group B with a statistically significant difference ($p<0.0001$).

There was no motor blockade in both group and patient could be ambulated $p>0.05$). This independence of movement and awareness of contradiction without pain improve maternal satisfaction. This study correlates well with the study[7&8].

A study conducted a study and found that the Ropivacaine group was more likely to be pain free in the first stage and required fewer top ups, pain relief and satisfaction score from mid wives and patients were consistently better but did not reach statistical significance[9].

5. Conclusion

Safe and effective methods for pain relief during labour are demanding and hence the present study was undertaken to find out the effect of different local anaesthetics on effectiveness of epidural analgesia in labour and on safety of mother and baby. Neonatal outcome was good in both groups.

6. References

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