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Intrathecal 0.5% Isobaric Bupiv Acaine Versus 0.5% Isobaric Ropiv Acaine for HIP Surgeries

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

The sensory motor block for ropivacaine starts at 6.4 minutes and similarly for bupivacaine is 3.32 minutes. The sensory block for ropivacaine is from ranges from T8-T12 and for bupivacaine its T4 - T8 level. The time taken for motor block is 203.8 and for group R its 142.9min. In group B, the mean value of time taken for two segment regression is 97.9 minutes. The time taken for group R to regress is 63.7. In Group its 4. 70 minutes. In Group R the mean onset of motor block is 9.40 minutes.

Keywords: Bupivacaine; ropivacaine; motor block.

1. INTRODUCTION

Ropivacaine and Bupivacaine are most generally used anesthetic drugs for spine surgeries. Though bupivacaine is a potent drug, it has an undesirable side effects such as bradycardiya, hypotension, also toxic to CNS and heart, so this paved the way to new long lasting pure S enantiomer of ropivacaine. Ropivacaine still has some other adverse effects such as delayed onset of sensory block due to its lower lipid solubility nevertheless it had good hemodynamic stability and non toxic as bupivacaine [1-3]. This study is to determine the the effect of Bupivacaine and Ropivacaine in terms of onset, duration and levels of analgesia and hemodynamic changes.

2. METHODOLOGY

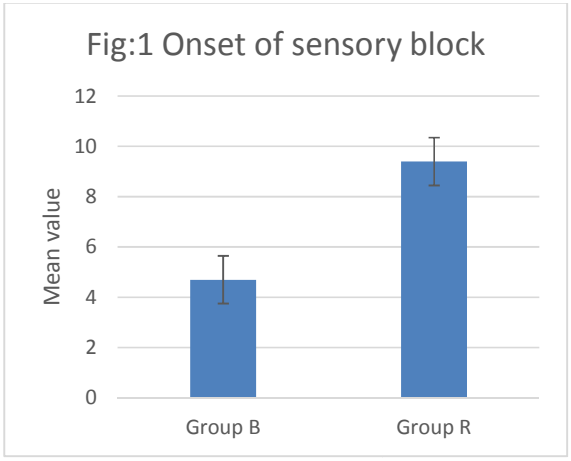
This study includes 60 patients, categorized into two groups. Bupivacaine at a dose of (0.5%) 3 ml(I 5 mg) is given for Group B patients and GroupR received3 ml(I 5 mg) of ropivacaine. Anaesthesia work station check list, crash cart check list done as a routine. All routine anaesthetic drugs were kept ready. Minimum mandatory monitors of ECG, NIBP, Sp02, temperature monitors were connected to the patient and the baseline values of heart rate, systolic and diastolic blood pressure and oxygen saturation were noted.

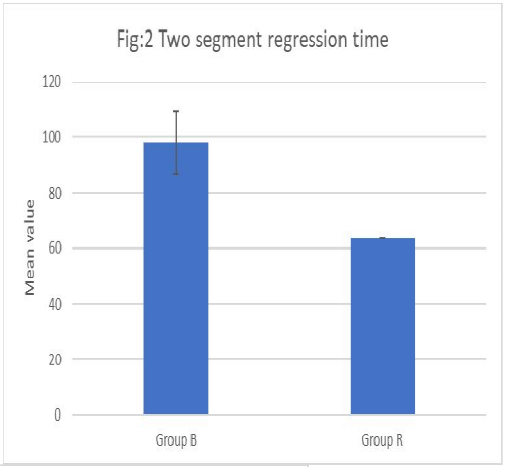
Then, hemodynamic parameters were evaluated such as, blood pressure, oxygen saturation, mean arterial pressure,pulse rate. The assessment of Sensory blockade was performed by temperature , pain & touch in the mid axillary line at 1 min interval and Motor block is to be assessed by the Modified Bromage score.

3. RESULTS

Group B had mean onset of sensory block is 3.32minutes & Group R had the mean onset of sensory block is 6.40 minutes. There was a delay in sensory blockage in in group R when comparing with the B group (Fig. 1). The group B exhibited a regression time of 97.9 minutes and for group R its 63.7 minutes (Fig. 2). In Group B the mean onset of motor block Is 4. 70 minutes and for Group R is 9.40 minutes. The onset time is delayed in Group when comparing with group B(Fig. 3).

28% of cases had bradicardiya in group B and 6% in the other group. it was observed that 32% cases had fall in systolic BP and 9% in group R. 30% of cases had a fall in diastolic BP in group B and 7% in R. oxygen saturation was not very significant in both the groups.





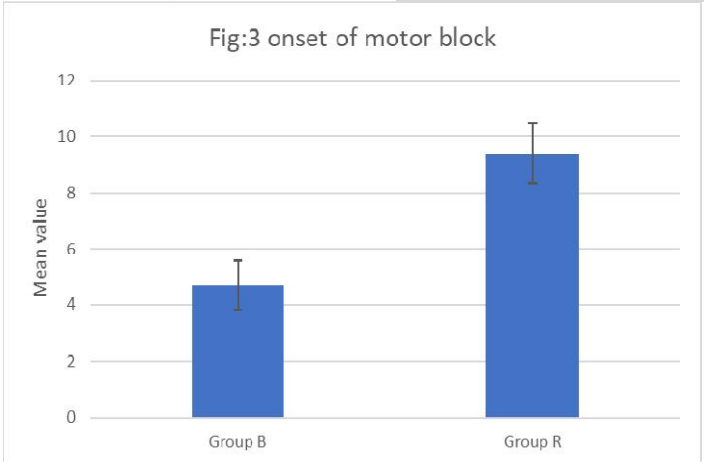


Table 1. Maximum sensory level

Maximum Sensory Level	Group B	%	Group R	%
T4	02	8	00	0
TS	05	16	00	0
T6	14	46	00	0
T7	07	24	00	0
T 8	02	6	04	14
T9	00	0	03	12
T 10	00	0	16	52
T 12	00	0	07	22
Total	**30**		**30**	

In Group B the maximum sensory level ranges from T4-T8 and m 46% of cases the maximum level reached is T6.In Group R the maximum sensory level ranges from T8-T12 and in 52% of cases the maximum level reached is T10.Group R reaches a low sensory level when compared to Bupivacaine.

4. DISCUSSION AND CONCLUSION

From the study it was observed that there was a delay in the onset time of the blocks treated with Ropivacaine significantly and it was also observed that offset of sensory block, two segment regression, and offset of motor was much earlier in Ropivacaine, these findings were similar to the previous studies [4-9]. Both the groups had adequate quality of blocks. When comparing the hemodynamic stability,group R exhibited high degree of stability when compared to the other group. The use of vasopression and atropine were less with ropivacaine than bupivacaine. There was no changes in oxygen saturation in both the groups. Hence Ropivacacine is an ideal drug for ambulatory anaesthesia and a best alternative to Bupivacaine for short duration surgeries.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline Patient's consent and ethical approval has been collected and preserved by the authors.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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