ISSN: 0975-833X

Available online at http://www.journalcra.com

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

International Journal of Current Research
Vol. 13, Issue, 06, pp.17919-17921, June, 2021

DOI: https://doi.org/10.24941/ijcr.41704.06.2021

RESEARCH ARTICLE **OPEN ACCESS**

TO COMPARE THE EFFICACY OF FASCIA ILIACA COMPARTMENT BLOCK WITH 0.25%ROPIVACAINE AND 0.25%LEVOBUPIVACAINE FOR PRE OPERATIVE ANALGESIA BEFORE SUB-ARACHANOID BLOCK AND FOR POST OPERATIVE ANALGESIA

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ARTICLE INFO

Article History:
Received 27th March, 2021
Received in revised form
15th April, 2021
Accepted 20th May, 2021
Published online 30th June, 2021

Key Words:

Cleaning, Meditation, Pranahuti, Heartfulness, Revenge, Motivation.

ABSTRACT

Background: Fracture femur isthe most common long fractures due to accidental fall and road traffic accidents. Moreover , patients suffer agonising pain pre operatively and post operatively . therefore in our study we compare the efficacy of Fascia Iliaca Compartment Block (FICB) with 0.25%ropivacaine and 0.25% levobupivacaine for pre operative analgesia before subarachanoid block and its effect on post operative analgesia. **Objective:** To compare the efficacy of FICB with 0.25% bupivacaine and 0.25% ropivacaine in pre operative analgesia and its effect on post operative analgesia. **Methods**: Under aseptic condition , with 18G Tuohy needle local anesthetics was injected into a point 1cm below the medial 2/3rd and lateral 1/3rd of the line joining the anterior superior iliac spine and pubic tubercle[1,2,3]. Just after feeling of 2 pops below fascia lata and fascia illiaca , the drug was deposited after negative aspiration. **Result:** VAS score between 2 groups for pre operative analgesia was significant (p value <0.05) with 0.25% levobupivacaine group having lesser VAS score than ropivacaine group. Moreover VAS score for post operative analgesia was comparable and not significant (p value> 0,05). Conclusion: it was concluded that 0.25% levobupivacaine in FICB provide better analgesia pre operatively and both levobupivacaine and ropivacaine provide comparable analgesia post operatively

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Citation: Dr. Shibin Jose, Dr. Sarath Kumar, Dr. Matendra Singh Yadav, Dr. Sourabh Jain and Dr. Sugumar, M.. "To compare the efficacy of fascia iliaca compartment block with 0.25%ropivacaine and 0.25%levobupivacaine for pre operative analgesia before sub-arachanoid block and for post operative analgesia*", 2021. International Journal of Current Research*, *13*, *(06)*, *17919-17921.*

INTRODUCTION

Fracture femur is the most common long bone fractures due to accidental fall and road traffic accidents. Moreover, patients suffer agonising pain pre operatively and post operatively. Among various techniques, FICB has been promising in providing better analgesia for patients pre operatively and post operatively.

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Moreover different kinds of local anaesthetics are being used , in our study we compared the efficacy of 0.25% levobupivacaine and 025% ropivacaine.

MATERIAL AND METHODS

60 Patients admitted to Trauma Center, IMS, BHU satisfying the inclusion and exclusion criteria aged 60 and above (geriatric patients) of either gender, undergoing surgery for fracture femur were included in the study, after obtaining the ethical committee clearance.

Group 1 – 0.25% levobupivacaine
GroupII – 0,25% Ropivacaine

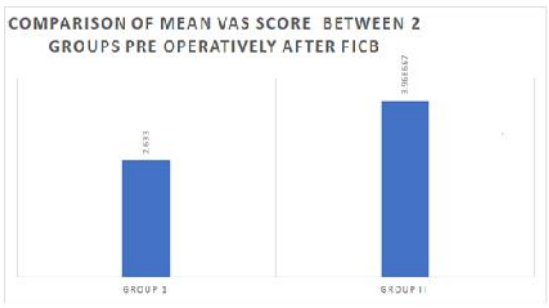
Patients in both groups received their respective drugs of 30ml in fascia iliaca compartment block 30 minutes before the sub arachnoid block. Fascia iliaca block was achieved using an 18G tuohy needle. The anterior superior iliac spine and pubic tubercle were identified[1,2,3]. The point of insertion was 1 cm below the junction of medial two-thirds and lateral one-third of the line joining the Anterior superior iliac spine and pubic tubercle. After local infiltration, the needle was used to feel for the 2 "pops" as it passed through the fascia lata and fascia iliaca. Just following the second 'pop' or "give way" sensation and negative aspiration. The local anaesthetic drug was deposited in the fascia iliaca compartment. Hemodynamic variables - heart rate, non invasive blood pressure, were recorded before the block. The analgesia provided by either of the modes was subjectively assessed by using Visual analogue scale scores (VAS) before the block and after the block at 5 minute intervals. Subarachnoid block was given by midline approach understrict aseptic condition. The dose of local anaesthetic used for sub arachnoid was 15mg of 0.5% bupivacaine heavy .Post operatively, analgesic requirements in first 24 hour were assessed (every 8 hours).Rescue analgesia was provided with intravenous paracetamol 1gm when a VAS score exceeded 4 on the VAS scale.

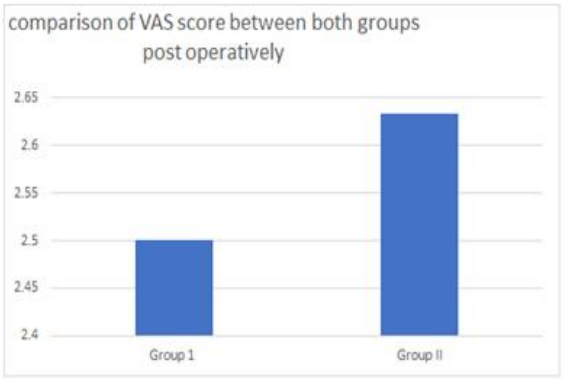
OBSERVATION AND RESULTS

Demographically, distribution according to gender, distribution according to ASA grading, Distribution according to diagnosis were comparable between 2 groups and was statistically insignificant (p value>0.05). Now moving on to preoperative analgesia of patients in group 1 (2.633±0.7648) (Table 1) was found have lower mean VAS score than group II(3.966±1.351), the VAS score between 2 groups were statistically significant (p value <0.05). Other parameters such as mean time to SAB, haemodynamic parameter such as heart rate, Systolic BP, Diastolic BP and Mean BP were comparable between the groups and was statistically insignificant (p value >0.05).(TABLE-2). Atlast the post operative VAS score between the 2 groups were comparable and statistically insignificant.(p value >0.05)

Preoperative vas score compariosn	GROUP 1 (0.25% levo bupivacaine)	GROUP II (0.25% ropivacaine)
MEAN (VAS score)	2.633	3.966667
SD	0.76489	1.3514

Comparison of VAS score post operatively	Mean	Standard deviation
Group 1	2.5	0.682
Group II	2.633	0.7648





DISCUSSION

Patients in both groups received their respective drugs of 30ml in fascia iliaca compartment block 30 minutes before the sub arachnoid block. Fascia iliaca block was achieved using an 18G tuohy needle. The anterior superior iliac spine and pubic tubercle were identified. The point of insertion was 1 cm below the junction of medial two-thirds and lateral one-third of the line joining the Anterior superior iliac spine and pubic tubercle. After local infiltration, the needle was used to feel for the 2 "pops" as it passed through the fascia lata and fascia iliaca. Just following the second 'pop" or "give way" sensation and negative aspiration. The local anaesthetic drug was deposited in the fascia iliaca compartment. Demographically, distribution according to gender, distribution according to ASA grading, Distribution according to diagnosis were comparable between 2 groups and was statistically insignificant (p value>0.05) .Now moving on to preoperative analgesia of patients in group 1 (2.633±0.7648) was found have lower mean VAS score than group II(3.966±1.351) , the VAS score between 2 groups were statistically significant (p value <0.05). Moreover C Piangatelli[4] et al concluded that levobupivacine was characterised by faster motor onset time and longer resolution between motor and sensory in psoas compartment block and sciatic nerve block thereby decreasing the analgesic requirement which is in support of our study showing levobupivacaine as better analgesic effect. Shantanu B Kulkarini[5] et al concluded that levobupivacaine in supraclavicular block (brachial plexus block) had rapid onset of sensory and motor blockade and prolonger analgesic effect compared to ropivacaine for upper limb surgeries. Postoperative analgesia was comparable and statistically insignificant which is comparable with studies conducted by kunitaro Watanabe[6] et al concluded that postoperative analgesia after brachial plexus block comparing levobupivacaine and ropivacaine were comparable and statistically insiginificant (P value >0.05)

CONCLUSION

According to study conducted on 60 patients divided into 2 groups we conclude that levobupivacaine had better analgesic effect pre operatively than ropivacaine but post operative analgesia was comparable in patients undergoing surgeries for femur fracture

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