

Comparison of Clonidine & Dexamethasone as Additive to Bupivacaine in Fascia Iliaca Compartment Block for Postoperative Analgesia in Patients Undergoing Lower Limb Orthopedic Surgeries

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Abstract: Introduction: The use of FICB is safe and effective approach to postoperative analgesia. Major lower limb surgery often painful & require aggressive postoperative pain management. Poorly treated patient can have negative impact on recovery. Aims & Objective: To compare postoperative analgesia in both the group using VAS score -To compare the consumption of rescue analgesics - To observe any complication in both the group Method Study Setting: Jhalawar medical college & hospital jhalawar. Study Design: Prospective randomized single blinded study Sample Size: 80 patients, age 18 to 65 years Sampling Technique: Computer generated random numbers. Study Group: 40 in each group Group 1: FICB with 48 ml 0.25 % bupivacaine + 50mcg clonidine diluted with NS upto 2ml Group 2: FICB with 48 ml 0.25 % bupivacaine + 8mg dexamethasone (2ml). Observation & Result: • At 12 hours after surgery: Mean VAS score at rest was 3.4 ± 1.4 in group1 and 2.46 ± 1.9 in group2 (P value=0.006) -Mean VAS score during movement was 4.84 ± 0.99 in group1 and 4.22 ± 1.49 in group2 (P value=0.015) -There score at rest and during movement • There was no significant difference was found in both group in terms of VAS score after 24 hours postoperatively both sat rest and during movement. • Mean requirement of number of rescue analgesic was 1.96 ± 0.66 in group1 and 1.60 ± 0.75 in group2, which was statistically significant (P value =0.018). Conclusion: • Our study show that adding dexamethasone to bupivacaine for FICB has better analgesia in early postoperative period and decreased requirement of rescue analgesic as compared to patient who received clonidine as additive to bupivacaine. • We conclude that dexamethasone provide better analgesic effect than clonidine. However larger prospective randomized trials are required to establish the superior efficacy of dexamethasone.

Keywords: FICB, fascia iliaca compartment block, Lower Limb, Clonidine, Dexamethasone

1. Introduction

The use of FICB is safe and effective approach to postoperative analgesia. Major lower limb surgery often painful & require aggressive postoperative pain management. Poorly treated patient can have negative impact on recovery.

Peripheral nerve block is suitable substitute for analgesia after lower limb surgery. They provide;

- Better pain relief
- Greater patient satisfaction
- More cost effective analgesia
- Better post operative recovery and rehabilitation

2. Aims & Objective

- To compare postoperative analgesia in both the group using VAS score
- To compare the consumption of rescue analgesics
- To observe any complication in both the group

3. Method

Study Setting- Jhalawar medical college & hospital jhalawar.

Study Design- Prospective randomized single blinded study.

Sample Size- 80 patient, age 18 to 65 years.

Sampling Technique- Computer generated random numbers.

Study Group: 40 in each group

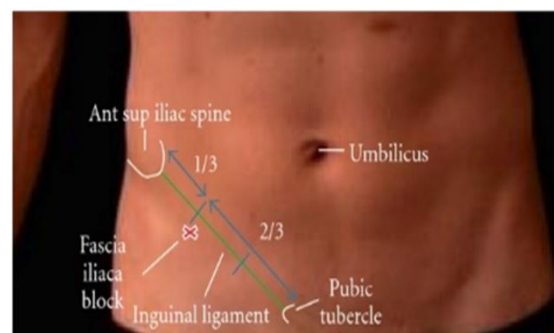
Group 1: FICB with 48 ml 0.25% bupivacaine + 50mcg clonidine diluted with NS upto 2ml

Group 2: FICB with 48 ml 0.25% bupivacaine + 8mg dexamethasone (2ml)

Inclusion Criteria: age b/w 18 to 65 years, ASA 1 & ASA2, patient posted for hip & femur shaft surgery.

Exclusion Criteria: patient not giving consent, coagulation disorder, infection at site, history of drug reaction, etc

4. Site



At end of under spinal FICB given in supine position technique describe by Dalen et al with line drawing on the skin connecting the anterior superior iliac spine to pubic tubercle at the level of inguinal ligament.

This line divided in three equal parts. At junction of lateral one third and medial two third, a second line is drawn perpendicular to line joining ASIS and pubic tubercle.

One cm below this line is the insertion point.

VISUAL ANALOG SCALE:-VAS is 10cm horizontal line labelled as no pain at one end and worst pain on other end.

- 0 – No pain
- 1-3 - Mild pain
- 4-6 - Moderate pain
- 7-10 – Sever pain

Inj diclofenac 75 mg given in postoperative period as rescue analgesia when VAS score more than 4.

5. Observation & Result

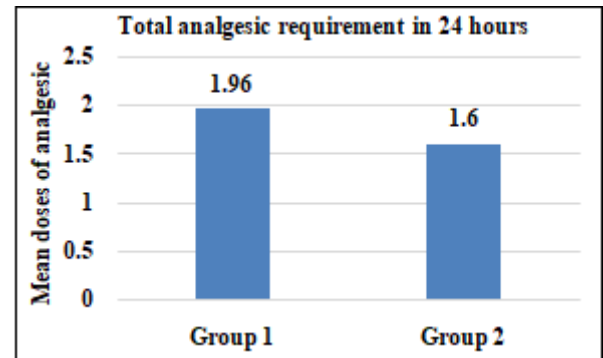
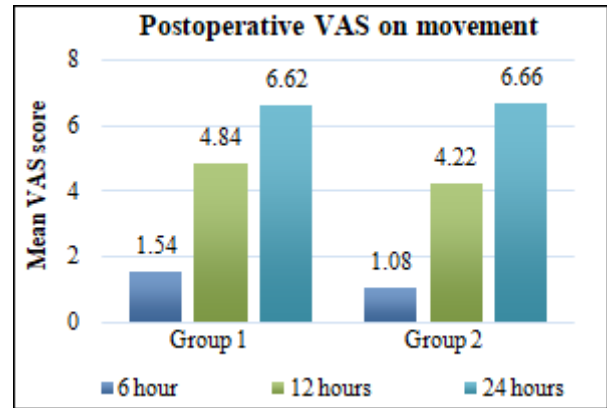
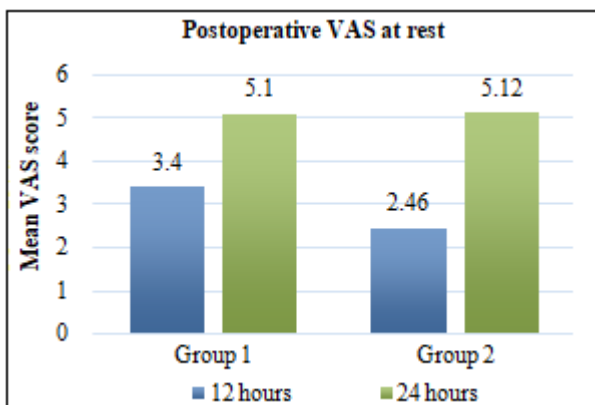
Study conducted on 80 patient of age 18 to 65 years of either sex posted for hip and femur shaft surgeries. No complication were observed in both group.

Patient Characteristics

Parameters	Group 1	Group 2	P value
Mean Age (years)	42.35 ± 16.65	43.4 ± 17.70	0.7 (NS)
Mean Body Weight (kg)	61.40 ± 7.00	6 0.02 ± 7.02	0.33 (NS)
SEX (M/F)	30/10	29/11	

Mean VAS score at different time interval

Time after block (hours)	At Rest		p-value	During Movement		P-value
	Group-1	Group-2		Group-1	Group-2	
1/2	0	0	>0.99	0	0	>0.99
1	0	0	>0.99	0	0	>0.99
3	0	0	>0.99	0	0	>0.99
6	0	0	>0.99	1.54 ± 1.4	1.08 ± 1.34	0.096
12	3.4 ± 1.4	2.46 ± 1.9	0.006	4.84 ± 0.99	4.22 ± 1.49	0.015
24	5.1 ± 0.54	5.12 ± 0.81	0.85	6.62 ± 0.60	6.66 ± 1.03	0.75



- None of the patient had pain up to 6 hours postoperatively in both group.
- At 12 hours after surgery :-
 - Mean VAS score at rest was 3.4±1.4 in group1 and 2.46±1.9 in group2. (P value=0.006)
 - Mean VAS score during movement was 4.84±0.99 in group1 and 4.22±1.49 in group2 (P value=0.015)
 - There was significant difference noted in both group in term of mean. VAS score at rest and during movement.
- There was no significant difference was found in both group in terms of VAS score after 24 hours postoperatively both sat rest and during movement.
- Mean requirement of number of rescue analgesic was 1.96±0.66 in group1 and 1.60±0.75 in group2, which was statistically significant (P value =0.018).

6. Discussion

Our study includes 80 subject 59 male and 21 female. The mean age & weight of study group was comparable. We compare group1 & group2 for postoperative pain using VAS score at 30 min, 1,3,6,12,24 hours and total rescue analgesia consumption in 24 hours.

Both group1 & 2 provide good quality of analgesia as evidence by low VAS score or low rescue analgesia requirement. Our result coincides with studies of tomar et al & kumar et al.

There was difference noted in both group in term of mean VAS at rest & movement at 12 hours after surgery which was significant. Dexona has low VAS score than clonidine. At 24 hours there was no difference in mean VAS score.

There was less consumption of rescue analgesia in dexamethasone group.

7. Conclusion

- Our study show that adding dexamethasone to bupivacaine for FICB has better analgesia in early postoperative period and decreased requirement of rescue analgesic as compared to patient who received clonidine as additive to bupivacaine.
- We conclude that dexamethasone provide better analgesic effect than clonidine. However larger prospective randomized trials are required to establish the superior efficacy of dexamethasone.

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