International Journal Dental and Medical Sciences Research
Volume 3, Issue 4, July-Aug 2021 pp 388-389 www.ijdmsrjournal.com ISSN: 2582-6018

Effect of Dexmedetomidine Added To Hyperbaric Spinal Bupivacaine for Infra-Umbilical Procedures

Dr Shreyas P Shikaripura, Dr Sindhu Sridhar, Dr NirmalSheshagiri, Dr Salman Kutty

Submitted: 20-07-2021 Revised: 29-07-2021 Accepted: 31-07-2021

I. BACKGROUND AND AIMS:

Various adjuncts have been used to prolong the analgesic effect of intrathecal bupivacaine.Dexmedetomidine, analpha-adrenoreceptor agonist used as neuraxial adjuvant provides stable haemodynamic conditions, good quality of intra- operative and prolonged post-operative analgesia with minimal side effects. We aimed to compare two doses of dexmedetomidine (0.005 mg and 0.01 mg) added to hyperbaric bupivacaine on block characteristics after spinal anaesthesia with respect to onset and duration of sensory and motor block. Secondary objectives were to study the haemodynamic effect, the duration of analgesia and the occurrence of side effects.

II. METHODS:

90 adult patients scheduled for below umbilicus surgeries were randomly assigned into3 groups, each receiving 3.5 ml spinal injectate that consisted of 3 ml of 0.5 % hyperbaric bupivacaine and 0.5 ml volume containing either 0.005mg dexmedetomidine (group D1), 0.01mg dexmedetomidine (group D2) or normal saline (group B).Heart rate, arterial blood pressure, onset and regression of sensory and motor block, level of sedation were assessed. Time to rescue analgesia was noted. The incidence of adverse effects was recorded.

Statistical tests used were Chi-Square test, ANOVA, Tukeys multiple post hoc test and SPSS version 20.

III. RESULTS:

The mean time taken for the sensory block to reach T10 dermatome [Figure 1] and motor block to reach Bromage 3 grade was significantly rapid in dexmedetomidine groups as compared to bupivacaine group (B vs D1,Bvs D2,P<0.001) and was faster in D2 group as compared to D1 group .The time taken for regression of sensory block to S1 dermatome and Bromage 0 grade motor block and the time to first rescue analgesic were increased significantly by addition of dexmedetomodine in a dose dependent manner (B vs D1, B vs D2 and D1 vs D2, P < 0.001). VRS scores were significantly lower in dexmedetomidine group as compared to bupivacaine group. No statistically significant differences in Ramsay sedation score, heart rate, blood pressure and respiratory rate was noted between the three groups.

IV. CONCLUSION:

Addition of dexmedetomidine to hyperbaric bupivacaine intrathecally produces a rapid onset of sensory and motor block, prolongs the sensory and motor block and the time to first rescue analgesic requirement significantly in a dose dependent manner together with stable haemodynamic parameters, minimal sedation and side effects.

International Journal Dental and Medical Sciences Research
Volume 3, Issue 4, July-Aug 2021 pp 388-389 www.ijdmsrjournal.com ISSN: 2582-6018

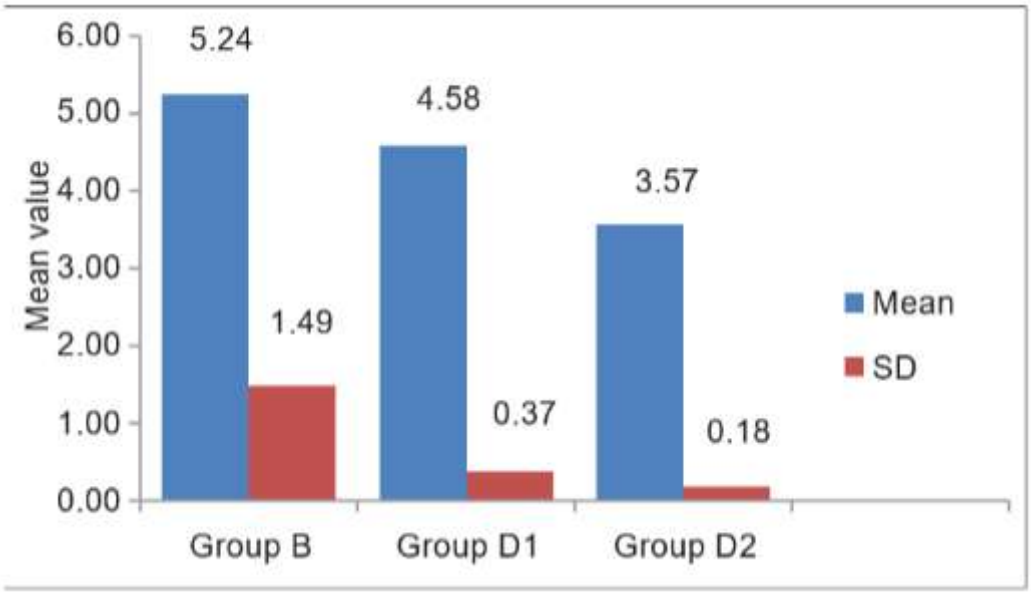

Figure 1: Time to reach T10 sensory block-Comparison of Groups B, D1 and D2 (mins)

REFERENCE

1. Gupta R, BograJ,Verma R, Kohli M, Kushwaha JK, Kumar S. Dexmedetomidine as an intrathecal adjuvant for post-operative analgesia. Indian J Anesth2011;55:347-51.