# PROLONGATION OF SPINAL ANAESTHESIA, COMPARATIVE STUDY BETWEEN DEXMEDETOMIDINE, CLONIDINE OR FENTANYL ON THE CHARACTERISTICS OF BUPIVACAINE SPINAL BLOCK

Thesis

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# Summary

Spinal anesthesia in lower abdominal surgery is almost now preferred to general anesthesia, due to its intra and postoperative antinociceptive effect, its lower incidence of hemodynamic fluctuation compared to general anesthesia, its considerable effect in reducing intraoperative bleeding and postoperative thrmoboembolic complications, and good control of postoperative pain.

The key feature of performing subarachnoid block is combining appropriate technique with a three-dimensional understanding and tactile appreciation of anatomy. Also, the understanding of the pharmacology of local anesthetics is a must to be aware of the effect and adverse effects of each and how to manage if any adverse effect occurred.

The purpose of this study prolong the duration of spinal anesthesia by adding dexmedetomidine or clonidine or fentanyl to the intrathecal bupivacaine compare hemodynamic changes as well as the onset and duration of sensory and motor blockade, level of sedation and post operative analgesia.

Eighty, ASA I and II, 25-55 years old patients scheduled for elective lower abdominal operations of an expected duration over -90min were enrolled in the study. They were randomized immediately before anesthesia into four groups, 20 patients/group:

**Group I**: Received hyperbaric bupivacaine 12mg + 2ml saline.

**Group II**: Received hyperbaric bupivacaine 12mg + clonidine 30μg in 2ml saline.

**Group III**: Received hyperbaric bupivacaine 12mg + 3μg dexmedetomidine in 2ml saline.

**Group IV**: Received hyperbaric bupivacaine 12mg + 50μg fentanyl in 2 ml saline.

Monitoring was done to assess hemodynamic and respiratory changes, the onset and duration of sensory and motor blockade, postoperative analgesia and postoperative adverse effect if any.

This study revealed that there was no significant difference in intra-operative hemodynamic or respiratory data between the groups.

The sensory onset was shorter in fentanyl group more than clonidine group, dexmedetomidine group, bupivacaine group respectively, and the sensory duration was longer in dexmedetomidine group more than clonidine group, fentanyl group, pubivacaine group respectively.

The motor blockade was rapid in fentanyl group more than clonidine group, dexmedetomidine group, and bupivacine group respectively, and the motor duration longer in dexmedetomidine group more than fentanyl group, then clonidine, all groups have more time blockade than bupivacaine group.

Postoperative analgesia was longer in dexmetomidine group more than clonidine group, fentanyl group all more have longer in postoperative analgesia than bupivacaine group.

All the previous results indicated the safety of these drugs for prolongation of spinal anesthesia and analgesia without serious side effects.