

Efficacy of Ultrasound Guided Local Anesthetic Field Block as a Sole Anesthesia for Open Inguinal Hernia Repair Versus Spinal Anesthesia: A Randomised Controlled Trial

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Abstract

Background: Inguinal hernia repair, which is one of the most common surgeries, has been performed under general, spinal, epidural and local anesthesia techniques with varying success. Use of pre-incision infiltration of local anesthetics for field blocks has been found to be an effective adjunct as well as an alternative to spinal and general anesthesia.

Objectives: Evaluating the feasibility and efficacy of a five step ultrasound guided inguinal field block as a sole anesthetic for open inguinal hernia repair when compared to spinal anesthesia.

Methods: Patients were randomised into group A (45 patients); received ultrasound guided 5 steps field block (subdermic, intradermic, deep subcutaneous, subfascial, pubic tubercle and hernia sac injection) and group B (45 patients); received spinal anesthesia. Numerical pain rating scores (NPR) were assessed four and twelve hours postoperative. Time to request first rescue analgesic drug, total dose of analgesics required during the first 12 hours postoperatively and time of first unassisted ambulation postsurgery were assessed as well. Intra operative surgeon and patient satisfaction and occurrence of complications including nausea, vomiting, wound hematoma, hypotension, persistent headache and urinary retention were recorded.

Results: Ultrasound guided field block provided a better postoperative analgesia with significantly lower NPR scores four hours after surgery with medians 4(3-7) in the ultrasound group versus 5(3-7) (P=0.034) in spinal group. Total analgesic consumption and the time needed for unassisted postoperative ambulation were significantly lower in the A group. There were no significant differences regarding hemodynamics, occurrence of complications and the degree of patient and surgeon satisfaction between the two groups.

Conclusion: Pre-operative five step ultrasound guided inguinal field block can provide effective operative anesthesia for performing un-complicated open inguinal hernia repair surgeries (which is comparable to spinal anesthesia), with better post-operative pain control and lower analgesic requirements and allowance of earlier ambulation.

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Abstract

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