Original Article

Safety and efficacy of transdermal buprenorphine versus oral tramadol for the treatment of post-operative pain following surgery for fracture neck of femur: A prospective, randomised clinical study

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ABSTRACT

Background: Transdermal buprenorphine, which is used in chronic pain management, has rarely been studied for use in acute pain management. The aim of this study was to compare the safety and efficacy of transdermal buprenorphine patch to oral tramadol for post-operative analgesia, following proximal femur surgeries. **Methodology:** Fifty adult patients undergoing surgery for hip fracture under spinal anaesthesia were included in this study. One group (Group TDB) received transdermal buprenorphine 10 mcg/h patch applied a day before the surgery and other group received oral tramadol 50 mg three times a day for analgesia (Group OT). They were allowed to take diclofenac and paracetamol tablets for rescue analgesia. Pain scores at rest, on movement, rescue analgesic requirement and side effects were compared between the groups over 7 days. Chi-square and independent sample *t*-test were used for categorical and continuous variables, respectively. **Results:** Resting pain scores and pain on movement were significantly lower in TDB Group on all 7 days starting from 24 h post-operatively. Rescue analgesic requirement was significantly lower in TDB Group compared to OT Group. All the patients needed rescue analgesic in OT Group whereas 68% of the patients needed the same in TDB Group. Incidence of vomiting was less and satisfaction scores were much higher in TDB Group as compared to OT Group (79% vs. 66%, $P < 0.001$). **Conclusion:** Transdermal buprenorphine can be safely used for post-operative analgesia and is more efficacious in reducing post-operative pain after 24 hours, with fewer side effects when compared to oral tramadol.

Key words: Buprenorphine, hip fractures, post-operative pain, tramadol, transdermal patch

INTRODUCTION

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