Continuous infusion of remifentanil under local anaesthesia for minimal invasive spine

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Introduction: Most of minimally invasive spine surgery has been performed under the local anesthesia with some analgesics and sedatives for awareness of nerve injury or pain relief immediately after the procedures. Remifentanil is the newest of the fentanyl family of short-acting phenylpiperideine derivatives to be released into clinical practice. It offers the same advantages such as profound analgesia, sedation, attenuation of the stress response. The unique pharmacology of remifentanil, in particular its rapid onset and offset, has more recently attracted clinicians especially procedures requiring a brief, intense, opioid effect. This study was performed to evaluate the efficacy and adverse effects of remifentanil under the local anesthesia during the percutaneous vertebroplasty and percutaneous endoscopic lumbar discotomy.

Materials and Methods: Continuous infusion of remifentanil in both fifty patients groups undergoing percutaneous vertebroplasty (VP group) and percutaneous endoscopic lumbar discotomy (PELD group) with a maximal anticipated duration of 60 minutes was performed. Continuous infusion rate for remifentanil was 0.1 microgram/kg/min. Visual analog scale (VAS) to evaluate pain during the operation, respiratory intervention scale and postoperative nausea; 3 = severe nausea; 4= retching and/or vomiting) were checked.

Results: Mean VAS score was 3.4 and 3.2 in the group VP and PELD. There was no respiratory intervention during and after operations in both groups. There were 2 and 3 patients in the group VP and PELD who suffered mild nausea which did not need to treat.

Conclusion: Continuous infusion of remifentanil under local anesthesia may provide rapid and sufficient analgesia for ambulatory spinal surgery and could evaluate the result immediately after the procedures.