Abstract

Study design: Prospective randomized, double-blind controlled trial

Purpose: To compare efficacy and safety of postoperative pain control between pre-operative and post-operative parecoxib administration in patient who have undergone major spine surgery.

Overview of literature: There were several studies comparing the efficacy of parecoxib, when administered pre-operation versus post-operation. The results of those studies were inconclusive due to variation in operative time. In long operative time major spine surgery, pre-incisional parecoxib administration reduces inflammatory response but may not reduce pain as much as giving the parecoxib immediately post-surgery.

Methods: 127 patients undergoing major spine surgery were randomly divided into 3 groups 1) Pre-group received parecoxib 40 mg before skin incision, as well as 12 and 24 hours after the first dose 2) Post-group received the same dose at wound closure, as well as 12 and 24 hours after the first dose 3) Control group did not receive any of parecoxib. Efficacy and safety of parecoxib were measured by pain score, morphine consumption and side effects from both morphine and parecoxib for 24 hours after surgery.

Results: The first pain score, pain score at rest, and morphine consumption for 24 hours after surgery were similar between the pre-group and post-group. Although pain score and morphine consumption were significant lower in both pre-group and post-group compared with the control group, Cumulative morphine consumption for 24 hours after surgery was reduced by approximately 50% in pre-group and 46% in the post-group compared with the control group. The incidence of analgesic-related complications was similar in all groups.

Conclusion: Timing of parecoxib administration, before or after spinal surgery, showed no difference in safety and analgesic efficacy of pain management.

Keywords: Major spine surgery, preventive analgesia, acute postoperative pain, parecoxib, nonsteroidal anti-inflammatory drugs (NSAIDs)