Oxycodone-CR for the Management of Pediatric Postoperative Pain

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Introduction: Pediatric spinal fusion surgery is reportedly very painful. Studies addressing pain management after surgery have focused on the use of patient controlled or epidural analgesia during the immediate postoperative period. Controlled release (CR) analgesics have been found to be both effective and safe in adults. The purpose of this study was to describe the use of CR analgesics in pediatric patients after the immediate postoperative period.

Methods: The data for this study were drawn from a convenience sample of children and adolescents, aged 10 to 19 years, at a large midwestern children's hospital during the period from December 2000 to December 2002. Inclusion criteria for the study were those who (1) experienced their first posterior and/or anterior spinal fusion for scoliosis; (2) were administered morphine or hydromorphone patient controlled analgesia (PCA) for initial pain management following surgery; and (3) were transitioned to oxycodone-CR. Mean pain scores (based on a verbal 0-10 scale) and side effects were recorded for each of the following periods: (a) 24-hours prior to transition; (b) the first 24-hours after transition, and; (c) 24-48-hours after transition to oxycodone-CR. The chart review included in-patient documentation and records of follow up telephone calls made to patient families.

Results: The mean initial oxycodone-CR dose was 1.24mg/kg/day. The mean ratio of conversion from parenteral morphine equivalents to oxycodone-CR was 1:1. Mean pain scores decreased from 4.2/10 to 3.7/10 with the transition to oxycodone-CR. The most common side effects included dizziness, constipation, and nausea. Patients used oxycodone-CR a mean of 13.3 days which included a wean of an average of 6 days.

Conclusions: Results of this study demonstrate safe and effective use of controlled release analgesics in the pediatric spinal fusion population.