1067347 - GABAPENTIN DOES NOT IMPROVE PAIN OUTCOMES FOR TOTAL KNEE ARTHROPLASTY

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Introduction: Gabapentin, an anticonvulsant, has an established role in chronic pain management and has been used increasingly for acute postoperative pain in recent years. Metaanalyses of randomized controlled trials, involving a total of 18 studies and various surgeries, have shown that it has benefit in terms of a reduction in opioid consumption, pain scores, vomiting, and pruritus, but this comes with a concomitant increase in the risk of dizziness and sedation (1). This study was designed to assess if gabapentin given preoperatively and for 2 days postoperatively (in addition to PCA morphine, acetaminophen, and ketorolac) is effective in improving pain outcomes in comparison with placebo for primary total knee arthroplasty.

Methods: This was a single-centre, blinded (patients, caregivers, and outcome assessors), randomized controlled trial of patients that underwent primary total knee arthroplasty. We obtained patient consent and local REB approval. Eligible patients were aged 19 to 90 years old, not allergic to a study medication, did not have a contraindication to NSAIDs, spinal anesthesia, or PCA morphine, and did not have chronic pain or preoperative opioid use other than codeine. All patients received 1000mg of acetaminophen and 15mg of ketorolac preoperatively. For the surgery, they received a spinal anesthetic with bupivacaine combined with fentanyl, and no systemic opioid or local infiltration. Postoperatively, they received PCA Morphine, acetaminophen 975 mg every 6 hours, and ketorolac 15 mg every 6 hours. Patients received either gabapentin 600 mg preoperatively followed by 200 mg every 8 hours for three days or matching placebo. Patients were assessed daily for morphine consumption, pain scores, satisfaction, side effects, and hemodynamics.

Results: This study included 44 patients in the gabapentin group and 41 in the placebo group. There were no significant differences between the gabapentin and control groups in morphine consumption (the primary outcome) at any time period after surgery. In addition, there were also no significant differences in pain scores (apart from a mean difference in pain scores of 1.0 (95% CI 0.0-2.0) at rest in the PACU in favor for the placebo group). There were no significant differences between the treatment groups in the incidence of side effects (nausea/vomiting, sedation, and pruritus) patient satisfaction, hospital length of stay, and joint range of motion.

Discussion: Although a number of randomized controlled trials (including another recent knee arthroplasty study) have shown a benefit with gabapentin, this trial did not demonstrate an advantage to gabapentin in terms of morphine consumption, pain scores, a reduction of side effects, patient satisfaction or length of stay (2). The discrepancy in results may reflect the use of multimodal analgesia in addition to gabapentin in this trial.