The Prevention vs. Treatment of Intrathecal Opioid Induced Pruritus with Ondansetron

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Background: Intrathecal morphine is used for postoperative analgesia after cesarean section, but pruritus is a common and bothersome side effect. Ondansetron has been reported to be effective in the treatment of opioid-induced pruritus.(1) But other studies have found that ondansetron is not effective as routine prophylaxis to prevent pruritus.(2) Ondansetron would be attractive for treatment of pruritus because it prevents nausea, does not sedate and does not have anti-analgesic effect. We undertook this study to determine whether the effective use of ondansetron is as a treatment of pruritus compared to a prophylactic agent.

Methods: After IRB approval and written informed consent, ASA I / II patuients having a cesarean section with a spinal anesthetic were enrolled. Exclusion criteria included diabetes mellitus, opioid use and chronic pain. Spinal injectate was 11.25 mg bupivacaine, 25 mcg fentanyl and 250 mcg morphine. Subjects were randomized into one of three groups: the prophylaxis group (syringe A = 8 mg (4 ml) ondansetron, syringe B = 4 ml normal saline(NS)), the treatment group (A = 4 ml NS, B = 8 mg ondansetron) and the control group (4 ml NS in both). Syringe A was given to all subjects immediately after umbilical cord clamp and syringe B was administered only to patients requesting treatment for pruritus during the study period. Visual Analog Scale (VAS) scores for pruritus, nausea and pain were recorded preoperatively, on arrival to recovery, 30 minutes, 60 minutes, 120 minutes, and on discharge from recovery. Primary outcome was the need for syringe B. The ANOVA test with Bonferroni correction or Fisher’s Exact as required was used to analyze the data.

Results: 90 patuients were enrolled and completed the protocol for interim analysis. There were 28 patients in the control group and treatment group, and 34 patients in the prophylaxis group. There were no differences in demographics, pre-op evaluation, or time from spinal to PACU. We found no differences in the VAS pruritus on admission to the PACU, at 30 min or 60 min. There were no differences in the request for treatment between the three groups (29% v 36% v 29%). There were no differences in the severity of pruritus between the prophylaxis syringe containing placebo vs. ondansetron and there was no differences in the reduction of pruritus with administration of treatment syringe comparing ondansetron vs. placebo.

Conclusion: Prophylactic ondansetron did not reduce pruritus when compared with placebo. The use of ondansetron as a rescue treatment also did not decrease the severity of pruritus when compared with placebo. Our data did not support the use of ondansetron as either a prevention or treatment for established pruritus.

References