Post Operative Nausea and Vomiting After a Total Joint Replacement with Spinal Anaesthetic

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Purpose

Nausea and vomiting are commonly reported by patients after surgery and often related or thought to be related to the opioids being administered for pain management. Whether directly caused by or exacerbated by the opioids, post surgical pain management and proper managing of post operative nausea and vomiting (PONV) are integrally related.

The purpose of this descriptive pilot project was to gather information regarding the following: 1) the relationship between length of stay and PONV in non day-care surgical patients not receiving general anaesthetic; 2) the association between the incidence of PONV post spinal aesthetic and risk factors for developing PONV; 3) possible relationships between analgesic treatments and PONV; and 4) possible relationships between antiemetic prophylaxis, and symptom response and PONV. In addition this information provides data regarding our current prevalence of PONV data and allows us to argue the significance of this symptom and why further research is needed in this area.

Method

This descriptive pilot study employed a retrospective chart review of 176 cases. These cases were selected from all of the total joint replacements that were completed under spinal anaesthetic, during the calendar year of 2008 at 5 community-based hospitals. 2146 patients, that met the inclusion/exclusion criteria, were divided into short stay (equal to or less than the mean length of stay) and long stay (more than the mean length of stay). From the long stay group 88 patients were randomly selected and then case control matched to 88 patients in the short stay. They were case matched based upon age, gender, number of co morbidities, and type of joint replacement (hip or knee).

The 176 charts were reviewed for evidence of nausea, vomiting, pre, intra, and post operative use of analgesics and antiemetics and known PONV risk factors (smoking, female gender, history of motion sickness or previous PONV, and opioid use). Descriptive statistics were determined for demographic variables, risk factors for PONV, length of stay, and prevalence of PONV.

Two by two cross-tabulations of counts and proportions of binary measures (such as short stay/long stay) with various binary measures of PONV or presence of PONV risk factors (yes/no) were conducted to address the primary objective/research questions and secondary questions.

Results

The results showed a higher than expected rate of PONV in this population. The overall rate of experiencing at least one episode of nausea or vomiting or both was 53.7%. While there was a difference between the mean PONV rate of the short and long stays (48.9% and 58.6%), this difference was not statistically significant (p = 0.197). One unexpected finding was the correlation between receiving oxycodone and PONV. (X²=4.824 p=0.033; OR 2.102 (95% CI 1.082-4.079). There was no other statistically significant relationship between any other opioid use and PONV.
Conclusions

This small pilot project allowed us to highlight a small (although not statistically significant) relationship between PONV and length of stay in spinal anaesthetic only patients. It is suspected that with a future higher power study that this relationship may be more evident. In addition this study findings show a significant need for us as clinicians to address the issue of PONV post spinal anaesthetic. Finally the unexpected finding of the correlation between oxycodone and PONV requires further study to explore what factors, or other possible interactions are evident in this relationship.