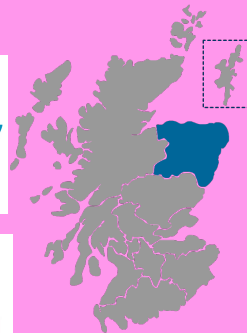


PONV at Royal Aberdeen Childrens' Hospital: A Re-Audit

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Background/Context

Post-operative nausea and vomiting (PONV) continues to be an issue in the paediatric population. The incidence is almost twice as high as in adults, and varies between 13% and 42% (1). It is associated with morbidity, delayed discharge and parental and patient dissatisfaction (2). Our department at the Royal Aberdeen Childrens' Hospital (RACH) in Aberdeen continues to support regular re-auditing of the incidence of PONV in children.

Problem

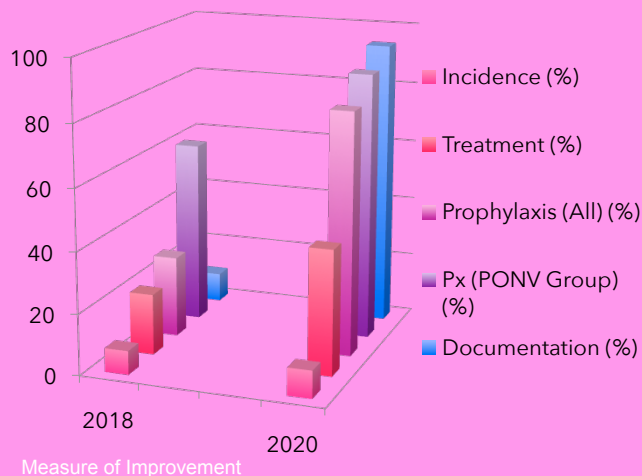
PONV is something we audit on a regular basis in order to ensure optimal care. After the APAGBI released guidance in 2016, we audited the incidence of PONV in our day case unit in 2018. Since implementing several changes, we have not yet re-audited the incidence or reassessed our practice.

Strategy for Change

Following the audit in 2018, our departmental PONV guidance was changed to adhere to the 2016 APAGBI guidelines. This included removing cyclizine as a treatment option, adding droperidol and encouraging ondansetron use as well as creating a risk stratification chart for each theatre. Dexamethasone was added as a first line treatment. Documentation of risk assessment was poor, so our anaesthetic charts were altered to encourage better history taking to capture those patients at highest risk.

These changes have not been fully re-audited until now. In addition, there were several further changes implemented over the last few years that have likely affected the incidence of PONV. Our TIVA use appears to be increasing which has hopefully had a positive impact. We have introduced quantitative TOF monitoring and therefore, the dose of neostigmine may have been reduced as a consequence. We also allow unrestricted clear fluids pre-operatively since 2018.

Figure 1: Improvements during 2nd cycle



Measure of Improvement

We were pleased with our results in 2018; our incidence of 7.8% was well below the national guidance. This year, over a 4-week period, we included all cases (both elective and emergency). Demographic, perioperative, and postoperative data was collected by medical, recovery, and ward nursing staff. Unfortunately, the incidence of PONV upon re-audit was 9%. Treatment of established PONV was 41%, although many cases were short and self-terminating, therefore not requiring treatment. Overall, our compliance with the APAGBI guidelines has increased (Figure 1).

Despite many changes implemented, we have failed to decrease our PONV incidence further. This may be explained by the larger sample size and inclusion of all cases, not just day cases. This re-audit was completed during the COVID pandemic (Nov – Dec 2020), which may have affected our results as the elective ENT cases were significantly reduced. Interestingly, the incidence between volatile anaesthetic and TIVA varied greatly; 12% (14/113) and 3% (2/60) respectively.

References

1. Guidelines on the Prevention of Post-operative Vomiting in Children[™], published in 2016 by the Association of Paediatric Anaesthetists of Great Britain and Ireland. www.apagbi.org.uk
2. Morrison C, Wilmhurst S. Postoperative Vomiting in Children. *BJA Education* Volume 19(10): 329 – 333 (2019), 22 August 2019, [https://bjaed.org/article/S2058-5349\(19\)30108-8/pdf](https://bjaed.org/article/S2058-5349(19)30108-8/pdf)