

Monitoring QTc in Pediatric Patients Who Receive Low Dose IV Haloperidol in the PACU for Post-operative Nausea and Vomiting

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BACKGROUND/SIGNIFICANCE

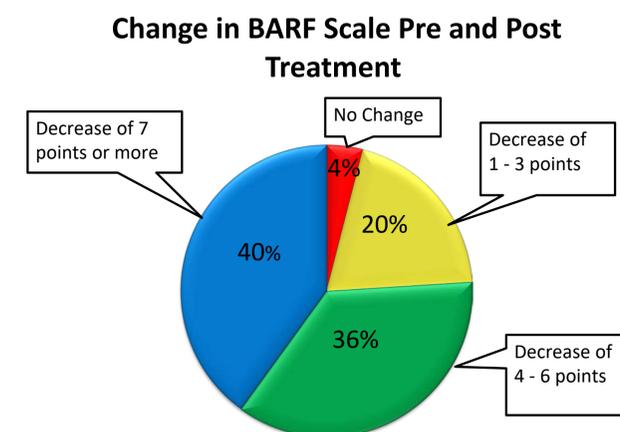
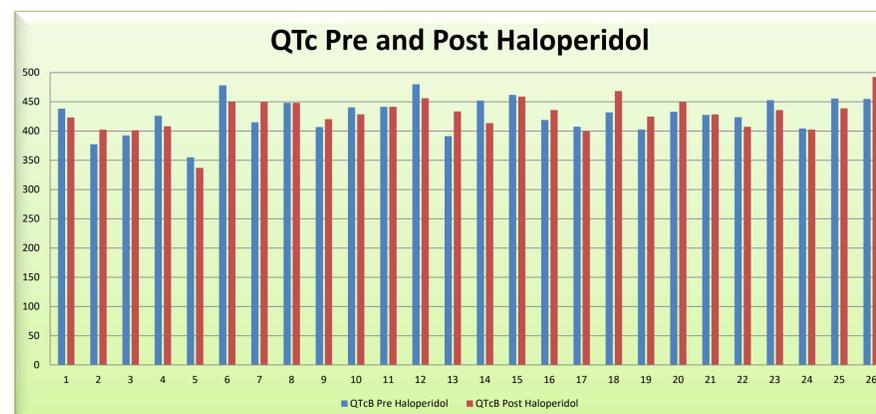
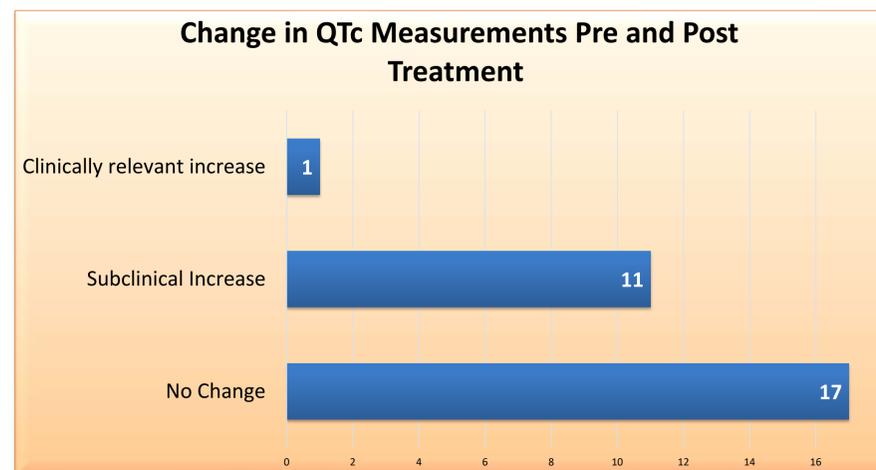
- Current PACU practice has been the administration of low dose IV haloperidol for post-operative nausea and vomiting (PONV) not responsive to other interventions for specific patient populations at the discretion of the anesthesia team
- Anecdotally, low dose haloperidol had been used safely in pediatric PACU's with good effect
- Current hospital formulary did not reflect current practices
- Monitoring parameters were based on higher dose haloperidol used for the treatment of psychosis and the potential for prolonged QTc
- Requirements were barriers to timely management of PONV in immediate post-operative recovery

PURPOSE AND GOALS

- To describe post-operative QTc measurements and therapeutic benefit for PONV in pediatric PACU patients given low dose IV haloperidol
- Findings will support updating hospital formulary to differentiate guidelines for low dose IV haloperidol in the PACU (currently SOC) from higher dose haloperidol used for psychiatric intervention

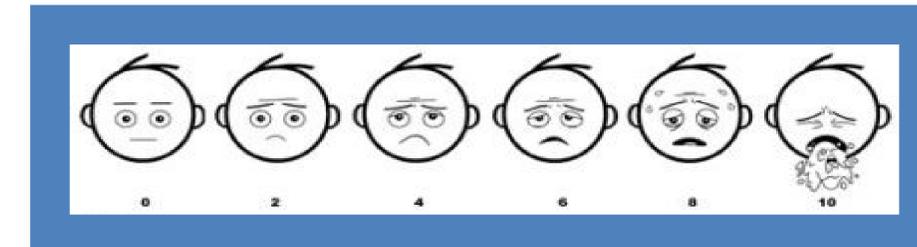
METHODS

- An interdisciplinary QI project developed
- Data collected over a six month period included pre- and post-haloperidol administration QTc and BARF scores
- Descriptive statistics used for analysis



FINDINGS

- Pre administration, QTc was 430±43msec (range 480-355) with heart rates of 82±16
- Two patients had dosing deferred because of clinical QTc ≥ 480 (N=29)
- Post treatment QTc readings had average increase of 2±22 msec, with 1 ECG exceeding QTc cutoff of <490 on post hoc review
- Post-hoc cardiology review measured comparable or shorter QT measurements in 17 (59%) patients, and only 1 had a clinically relevant increase in QTc (3%)
- Average BARF scores decreased from 7 to 1
- BARF Scores decreased by > 3 points in 76% of patients
- No further vomiting occurred in 80% of patients after IV haloperidol



IMPLICATIONS/NEXT STEPS

- Low dose IV haloperidol is very effective at limiting PONV
- Low dose IV haloperidol has a low incidence of QTc prolongation
- Data suggests can be used safely in high monitoring environment of pediatric PACU for select populations
- Findings informed evidence based changes to medication formulary consistent with clinical practice
- Further research needed to understand if low-dose IV haloperidol can be safely administered for younger pediatric population