1060475 - SAFETY OF MODERN ANESTHESIA FOR CHILDREN WITH LQT SYNDROME

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Introduction: Long QT syndromes (LQTS) are a family of cardiac ion channelopathies with a clinical spectrum ranging from asymptomatic through presyncope, syncope, and aborted cardiac arrest to sudden cardiac death. Arrhythmias in LQTS are often precipitated by autonomic changes. Patients with LQTS are believed to be at high risk for perioperative dysrhythmia, specifically torsades de pointes (TdP), based on limited literature that pre-dates current inhalational (IH) and intravenous (IV) anesthetic drugs and standards of perioperative monitoring. We present one of the largest reviews of anesthesia conducted in children with LQTS, to provide evidence for the optimal anesthetic management in LQTS.

Methods: Following REB approval, in this multicentre review we identified children with LQTS who had undergone general anesthesia (GA) between Jan 2005 and Jan 2010. Charts were reviewed for LQTS and perioperative management. Data was abstracted by each centre and sent to the coordinating centre for aggregation and analysis.

Results: During the study period, 53 LQTS patients, age range 1 d – 18 yr, underwent GA. In 60% surgery was LQTS-related; 40% required incidental surgery. Perioperative management is detailed in Table 1. Of note, 64% received beta-blocker (BB) on day of surgery and 26% received sedative pre-medication. In addition to the modes of anaesthesia noted in Table 1, 90% received IV opioids and 26% received ondansetron antiemetic prophylaxis. None received droperidol. There were 2 perioperative episodes of TdP; 1 in a 6 mo old LQT3 patient undergoing emergent implantable cardioverter-defibrillator placement for sustained TdP/VF in spite of BB + pacing, and 1 in a neonate who had undergone emergent pacemaker insertion for life threatening TdP. In all but 2 patients, the post-operative disposition was as planned pre-operatively; 2 unplanned ICU admissions were attributable to bleeding (1) and bed availability (1).

Discussion: There were no episodes of perioperative dysrhythmia attributable to choice of anesthetic agents. TIVA was over-represented but volatile exposure remained common. Maintenance of perioperative BB therapy was routine. With this information we have begun an evidence base for modern anesthetic management of pediatric patients with LQTS.