ePoster #1 | Case Study | Pediatric Anesthesia

Perioperative Management of a Pediatric Patient with Congenital Long QT Syndrome

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Case Project Description

Congenital Long QT syndrome is rare, but increasing in incidence as it is found to be prevalent in 1 of 5000 live-births.. Management of such patients can be challenging peri-operatively as general anesthesia places this patient population at risk for complications such as syncope, seizures, Torsades de pointe, and sudden cardiac death. It is important to have the knowledge of the factors and drugs that can precipitate Long QT Syndrome in order to avoid a decline in the patient's functional status, and to reduce incidence of perioperative morbidity and mortality. Here we present such a case of a 7-year old who presented for circumcision with a past medical history of Romano-Ward Syndrome, one of two types of inherited Congenital Long QT syndromes which results from a KCNH2 gene mutation. Prior to the surgical procedure the patient was evaluated by cardiology and holter monitoring did not reveal life-threatening arrhythmias at baseline. Pre-operatively, defibrillator pads were placed on the patient, EKG verified prolonged QTC with normal sinus rhythm.. Patient underwent general anesthesia with endotracheal tube placement. Midazolam was given for premedication. Intra-operatively the patient was given fentanyl, lidocaine, propofol for induction followed by maintenance with total intravenous anesthesia. The patient was extubated to room air with adequate spontaneous ventilation followed by an uneventful PACU stay.

ePoster #2 | Case Study | Cardiac Anesthesia

Ventricular Septal Defect in Orthotopic Liver Transplantation

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Case Project Description

Liver transplantation is a highly challenging surgical procedure that can present numerous rapidly-evolving hemodynamic challenges to the anesthesiologist. Patients must undergo thoughtful preoperative examination to determine the extent of disordered organ function and its impact on management. The pathophysiology of particular co-morbidities such as hepatopulmonary syndrome, hepatorenal syndrome, end-stage renal disease, pulmonary hypertension, and heart disease should be planned for accordingly. Intraoperative challenges further compound the difficulty of management. Significant blood loss is universally a concern due to coagulopathy, thrombocytopenia, and portal hypertension. Electrolyte abnormalities and arrhythmias should be anticipated. Reperfusion syndrome can further cause significant hypotension and bradycardia. Here we report the case of a 56 year-old man who presented for liver transplantation with concomitant ventricular septal defect (VSD). The primary challenges of VSD include left-to-right shunt physiology, pulmonary hypertension, potential development of right-to-left shunt, and increased risk of cerebral vascular accident (CVA). In this patient with baseline pulmonary hypertension, there was a high risk for the development of right-to-left shunt in the setting of reperfusion syndrome. There is no literature to guide management in this clinical scenario, but after interdisciplinary discussion, it was determined that the patient could reasonably proceed with transplantation without prior VSD repair. With careful intraoperative management, the patient tolerated reperfusion without incident. Considering the lack of prior documentation or study of this rare disease presentation, this case provides a unique opportunity to discuss the physiology and management of a highly challenging anesthetic.

FIGURE 2 **Hemodynamically Significant Ventricular Level Shunt**

*Combination therapy with bosentan and PDE-5 inhibitor, if symptomatic improvement does not occur with either alone. ACHD indicates adult congenital heart disease; AR, aortic regurgitation; IE, infective endocarditis; LV, left ventricular; PAH, pulmonary artery hypertension; PASP, pulmonary artery systolic pressure; PDE-5, phosphodiesterase type-5 inhibitors; PH, pulmonary hypertension; Qp:Qs, pulmonary-systemic blood flow ratio; and VSD, ventricular septal defect.

ePoster #3 | Case Study | Pain Medicine

Treatment of Post-Amputation Pain with Wireless Peripheral Nerve Stimulation

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Case Project Description

Introduction: Limb amputation can lead to post-amputation pain (PAP) (1,2). Conservative multimodal therapies are often inadequate for long-term pain control. (3, 4, 5, 6). Our hypothesis is that wireless PNS is a less invasive, safe, and effective solution for PAP (5). We describe a case report detailing one of the first patients to be treated with wireless peripheral nerve stimulation for post-amputation pain.

Case Report: A 72 year old male with a Past medical history of hypertension, hyperlipidemia, diabetes, HIV, peripheral vascular disease, and left below-knee amputation complained of post-amputation pain. The patient described the pain as an intermittent, sharp, and burning sensation, which was exacerbated by movement and standing. His residual limb pain (RLP) was refractory to management with chronic opioids and sympathetic lumbar block. The patient proceeded with a trial of the wireless PNS implantation device, which provided 80-90% pain reduction and increase in daily activity levels. The normal activities that were associated with pain exacerbation did not reproduce pain with the trial. He then received the wireless PNS implantation upon trial success. The patient continues to report significant improvement in pain and return to baseline functioning.

Conclusion: Post-amputation pain is a commonly encountered, yet difficult pain to treat. Wireless PNS systems offer a less invasive treatment modality, which circumvents the challenges encountered with traditional PNS devices. The above case illustrates that wireless peripheral nerve stimulation should be considered early for difficult to treat post-amputation pain.

ePoster #4 | Case Study | Pain Medicine

Protracted Relief of Lumbar Radiculopathy following Nevro SCS Trial

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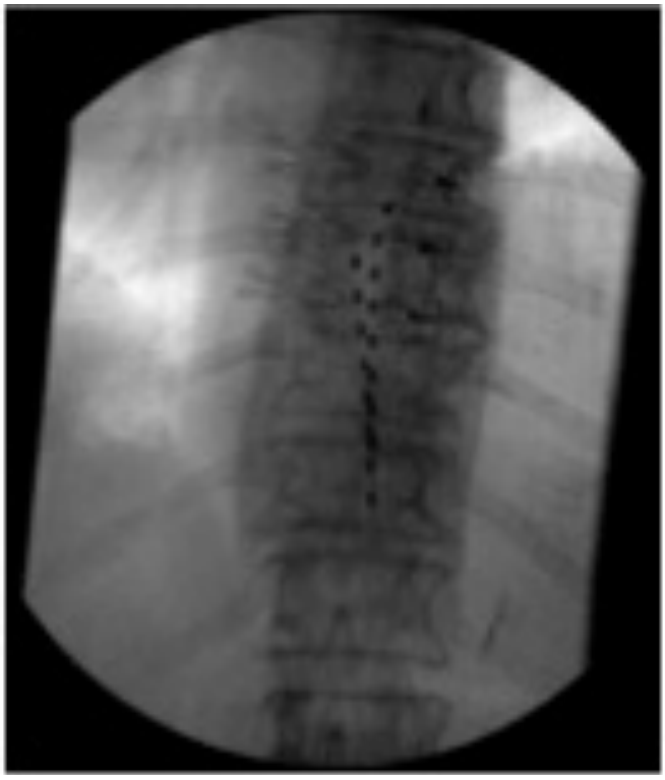
Case Project Description

A 78-year-old female presented with a radiculopathy in the right L5 dermatome. Imaging revealed multilevel severe spinal canal and foraminal stenosis. Caudal and Transforaminal Epidural Steroid Injections (TFESI) provided only temporary relief. A high frequency SCS trial was performed with percutaneous lead placement at the top of T8 and T9. Leads were removed 5 days later, however, the patient continued to experience profound (100%) relief of symptoms for the ensuing 56 days. We concluded that the patient experienced a protracted wash out period after five days of neuromodulation.



ePoster #5 | Case Study | Fundamentals of Anesthesiology

Dilemma: Difficult Airway with Neuromuscular Blocking Drug Use Issues

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Case Project Description

Healthy 23 yo female scheduled to undergo an ORIF of Right acetabulum. Prior anesthetic history of cesarean delivery with untoward results. BMI 36.8, MAL III, with normal mouth opening and thyromental distance. Patient had a lot of braided hair bunched up at the nape. Induction was uneventful with mask ventilation. Patient was paralyzed with rocuronium. Ventilation was initially possible, and intubation attempted. This was not possible even with attempts to secure airway using a bougie, LMA and video laryngoscope. This became impossible with patient producing copious amounts of thick secretions. Patient was reversed with Sugammadex and later re-paralyzed with rocuronium. She was successfully intubated using a combination of a video laryngoscope and bougie. (With hair re-arrangement and ramping) Multiple research articles found relating to best neuromuscular blocker to use when patients require immediate re-intubation after reversal of NMB.