

## PubMed

U.S. National Library of Medicine  
National Institutes of Health

Filter your results: All (6)

[Manage Filters](#)

Display Settings: Abstract, 20 per page, Sorted by Recently Added

### Results: 6

1. [Paediatr Anaesth. 2010 Mar 22. \[Epub ahead of print\]](#)

#### **Fundamentals of neuronal apoptosis relevant to pediatric anesthesia.**

Blaylock M, Engelhardt T, Bissonnette B.

Department of Anaesthesia, Aberdeen Royal Children's Hospital, Aberdeen, UK.

**Summary** The programmed cell death or apoptosis is a complex biochemical process that has risen to prominence in pediatric anesthesia. Preclinical studies report a dose-dependent neuronal apoptosis during synaptogenesis following exposure to intravenous and volatile anesthetic agents. Although emerging clinical data do not universally indicate an increased neurodegenerative risk of general anesthesia in early human life, a great deal of uncertainty was created within the pediatric anesthesia community. This was at least partially caused by the demand of understanding of basic science concepts and knowledge of apoptosis frequently out of reach to the clinician. It is, however, important for the pediatric anesthesiologist to be familiar with the basic science concepts of neuronal apoptosis to be able to critically evaluate current and future preclinical data in this area and future clinical studies. This current review describes the extrinsic and intrinsic pathways involved in the cell death process and discusses techniques commonly employed to determine apoptosis. In addition, potential mechanisms of anesthesia-induced neuronal apoptosis are illustrated in this review.

PMID: 20337958 [PubMed - as supplied by publisher]

2. [Paediatr Anaesth. 2010 Mar 22. \[Epub ahead of print\]](#)

#### **Anesthesia for videoscopic left cardiac sympathetic denervation in children with congenital long QT syndrome and catecholaminergic polymorphic ventricular tachycardia - a case series.**

Kenyon CA, Flick R, Moir C, Ackerman MJ, Pabelick CM.

Department of Anesthesiology, Mayo Clinic, Rochester, MN, USA.

**Summary Objective:** To describe our experience in the anesthetic management of pediatric patients who have undergone left cardiac sympathetic denervation (LCSD) for congenital long QT syndrome (LQTS) and catecholaminergic polymorphic ventricular tachycardia (CPVT). **Background:** Long QT syndrome and CPVT predispose patients to ventricular arrhythmias and sudden death. One treatment option for these patients is LCSD. When these patients present for LCSD or other surgical procedures, anesthetic management is challenging, as many medications may exacerbate QT prolongation. **Methods:** Retrospective review of the electronic medical records of 22 pediatric patients who underwent LCSD between November 2005 and December 2008. **Results:** Six patients (27%) received midazolam as a premedication. Eleven patients (50%) underwent inhalation induction with sevoflurane. Eighty-six percentage received either sevoflurane or isoflurane for maintenance of anesthesia, while the remaining 14% received a propofol infusion. Nine patients (41%) received esmolol infusions intraoperatively, while one patient (4.5%) received a labetalol infusion. Three patients (14%) received lidocaine infusions. No significant cardiac or other events occurred in any of these patients in the perioperative period. **Conclusions:** Important anesthetic considerations in this population include avoidance of sympathetic stimulation, correction of any abnormal electrolytes, and the immediate availability of a defibrillator and magnesium sulfate to treat arrhythmias. Anxious patients may benefit from premedication to reduce sympathetic tone. We have safely used both volatile agents and propofol for induction and maintenance of anesthesia. In our experience, intraoperative infusions of beta-blockers and lidocaine seem to be helpful in reducing arrhythmogenic potential, especially in patients with profound QT prolongation.

PMID: 20337957 [PubMed - as supplied by publisher]

3. [Paediatr Anaesth. 2010 Mar 11. \[Epub ahead of print\]](#)

#### **Comparison of propofol versus propofol-ketamine combination for sedation during spinal anesthesia in**

## **children: randomized clinical trial of efficacy and safety.**

Singh R, Batra YK, Bharti N, Panda NB.

Department of Anesthesia and Intensive Care, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India.

**Summary Objectives:** This study was designed to compare the efficacy and safety of propofol vs propofol-ketamine combination for sedation during pediatric spinal anesthesia. **Methods:** Forty children, aged 3-8 undergoing spinal anesthesia for lower abdominal surgeries were included. Participants were randomly assigned into two groups. Group 1 received propofol bolus of 2 mg.kg(-1) followed by an infusion of 4 mg.kg(-1).h(-1). Group 2 received a combination of 1.6 mg.kg(-1) propofol and 0.4 mg.kg(-1) ketamine followed by an infusion of 3.2 mg.kg(-1).h(-1) and 0.8 mg.kg(-1).h(-1), respectively. The infusion rate was titrated to keep the child sedated at University of Michigan Sedation Score of 3. The heart rate, blood pressure, respiratory rate and oxygen saturation were recorded every 5 min. The episodes of spontaneous body movements and requirement of supplemental sedation were recorded. The postoperative recovery was assessed by modified Aldrette score. **Results:** Seventeen patients in group 1 and four patients in group 2 ( $P < 0.001$ ) required extra boluses of study drug to prevent movements during lumbar puncture. Four patients experienced respiratory depression and three airway obstruction in group 1 when compared to one patient each in group 2 ( $P < 0.05$ ). The recovery time was similar in both groups. None of the patient had postoperative nausea/vomiting or psychomimetic reactions. **Conclusions:** Propofol-ketamine combination provided better quality of sedation with lesser complications than propofol alone and thus can be a good option for sedation during spinal anesthesia in children.

PMID: 20337955 [PubMed - as supplied by publisher]

4. [Paediatr Anaesth.](#) 2010 Mar 11. [Epub ahead of print]

## **Complications during rapid sequence induction of general anesthesia in children: a benchmark study.**

Gencorelli FJ, Fields RG, Litman RS.

Department of Anesthesiology, Hospital of the University of Pennsylvania School of Medicine, Philadelphia, PA, USA.

**Summary Objectives:** Determine incidence of complications such as difficult or failed intubation, hypoxemia, hypotension, and bradycardia in children undergoing rapid sequence intubation (RSI) in a pediatric anesthesia department in a tertiary care children's hospital. **Aim:** To establish a benchmark to be used by other institutions and nonanesthesiologists performing RSI in children. **Background:** RSI is being increasingly performed in the nonoperating room setting by nonanesthesiologists. No published studies exist to establish a benchmark of intubation success or failure and complications in this patient population. **Methods/Materials:** Retrospective cohort analysis of children aged 3-12 undergoing RSI from 2001 to 2006. **Results:** One thousand seventy children underwent RSI from 2001 to 2006. Twenty (1.9%) developed moderate hypoxemia ( $SpO_2$  80-89%), 18 (1.7%) demonstrated severe hypoxemia ( $SpO_2 < 80\%$ ), 5 (0.5%) developed bradycardia (heart rate  $< 60$ ), and 8 (0.8%) developed hypotension (systolic blood pressure  $< 70$  mmHg). One patient had emesis of gastric contents but no evidence of pulmonary aspiration or hypoxemia. Eighteen (1.7%) children were noted to be difficult to intubate and required more than one intubation attempt. All were eventually intubated without significant complications. Patients between 10 and 19 kg had a higher incidence of severe hypoxemia when compared with older children ( $P < 0.001$ ). There was no association between choice of muscle relaxant and any complication. **Conclusions:** In our cohort of 1070 children who underwent RSI, difficult intubation was encountered in 1.7% and transient oxyhemoglobin desaturation occurred in 3.6%. Severe hypoxemia was more likely in children  $< 20$  kg. There were no children who could not be intubated, and there were no long-term or permanent complications.

PMID: 20337954 [PubMed - as supplied by publisher]

5. [Paediatr Anaesth.](#) 2010 Mar 11. [Epub ahead of print]

## **Total intravenous anesthesia and spontaneous respiration for airway endoscopy in children - a prospective evaluation.**

Malherbe S, Whyte S, Singh P, Amari E, King A, Mark Ansermino J.

Department of Anesthesia, BC Children's Hospital, 4480 Oak Street, Vancouver, BC, Canada.

**Summary Introduction:** Inhalational anesthesia with spontaneous respiration is traditionally used to facilitate airway endoscopy in children. The potential difficulties in maintaining adequate depth of anesthesia using inhalational anesthesia and the anesthetic pollution of the surgical environment are significant disadvantages of this technique. We report our institutional experience using total intravenous anesthesia (TIVA) and spontaneous respiration. **Methods:** We prospectively studied 41 pediatric patients undergoing 52 airway endoscopies and airway surgeries. Following induction of anesthesia, a propofol infusion was titrated to a clinically adequate level of anesthesia, guided by the Bispectral Index (BIS), and a remifentanyl infusion was titrated to respiratory rate. ECG, BP, pulse oximetry, BIS level, transcutaneous  $CO_2$  ( $TcCO_2$ ), respiratory rate, and drug infusion rates were recorded. Adverse events and the response to these events were also recorded. **Results:** Forty-one children underwent 52 airway procedures; 17

rigid bronchoscopies and 35 microlaryngobronchoscopies, including 18 LASER treatments, were performed. The mean (sd) age was 6.9 (5.8) years and weight 26.9 (21.2) kg. The mean induction time was 13 (6) min, and anesthesia duration was 49 (30) min. The mean highest TcCO<sub>2</sub> recorded during the procedures was 62.8 +/- 15.3 mmHg. Coughing occurred in 14 (27%) patients, requiring additional topical anesthesia (3), a bolus of propofol (4) or remifentanyl (1), or removal of the bronchoscope (1). Desaturation below 90% occurred in 10 (19%) cases; only three required intervention in the form of temporary assisted ventilation (2) or inhaled bronchodilators (1). No laryngospasm, stridor, or arrhythmias were observed. Conclusion: TIVA and spontaneous respiration is an effective technique to manage anesthesia for airway endoscopy and surgery in children.

PMID: 20337953 [PubMed - as supplied by publisher]

6. [Paediatr Anaesth. 2010 Mar 11. \[Epub ahead of print\]](#)

### **Anesthetic considerations for the pediatric oncology patient - Part 3: pain, cognitive dysfunction, and preoperative evaluation.**

Latham GJ, Greenberg RS.

Department of Anesthesiology and Pain Medicine, Seattle Children's Hospital, University of Washington School of Medicine, Seattle, WA.

**Summary** In part three of this three-part review, we continue with discussion of the effects of tumor and its therapy as they impact neurocognitive functioning, psychosocial issues of the patient and family, and the mechanisms and experience of pain in the child with cancer. A discussion of preanesthetic testing and evaluation in this patient population is next presented for the reader, focusing on the factors which pose the commonest and greatest risks to the child undergoing surgery. Lastly, an algorithmic approach to evaluating and managing key components of the medical history of pediatric patients is presented.

PMID: 20337952 [PubMed - as supplied by publisher]