

Clinical Forum: Pediatric Anesthesia Challenges

Reviewed by Constance S. Houck, MD

It was a full house on Tuesday afternoon for the Clinical Forum entitled Pediatric Anesthesia Challenges moderated by Greg Hammer, MD from Lucile Packard Children's Hospital. This Forum presented two challenging, but not too uncommon, pediatric OR cases for the panel of experts to discuss. This year's panel included J. Michael Badgwell, MD from Texas Tech University, Laura Diaz, MD from the Division of Pediatric Cardiovascular Anesthesiology of Texas Children's Hospital and Myron Yaster, MD from Johns Hopkins University.

The first case was that of a 4-year-old boy with a bicuspid aortic valve and obstructive sleep apnea presenting for tonsillectomy. Initial discussion centered on what type of cardiac evaluation and "clearance" should be required in the preoperative period. The difficulty of gathering this information prior to surgery and the potential problems that can occur from not fully evaluating a cardiac lesion were debated. Discussion about the many aspects of the operative and postoperative course in infants and children with obstructive sleep apnea ensued. Some of the newer research in both animals and humans on obstructive sleep apnea and the signifi-

cantly lower perioperative opioid requirements after adenotonsillectomy were presented (Brown KA, et al, *Anesthesiology* 2006; 105:665–9 and Moss IR, et al. *Anesthesiology* 2006; 105:715–8).

The second case was that of a 4 month old presenting for repair of a single suture craniosynostosis. The family arrived after having driven 5 hours to get to the hospital that morning. The baby was noted to have mild URI symptoms and an occasional dry cough. Discussion in this case revolved around potential airway issues in this scenario, including the increased risks of perioperative hypoxemia, laryngospasm, bronchospasm, atelectasis and ET tube obstruction (Tait AR and Malviya S. *Anesth Analg* 2005;100:59–65). The panelists discussed strategies to assess the risks and reduce the complications in the presence of an upper respiratory infection. The recent studies on the use of CPAP and/or PEEP to decrease atelectasis associated with high inspired oxygen concentrations in the perioperative period were reviewed (Rusca M, et al. *Anesth Analg* 2003;97:1835–9, Benoit Z, et al. *Anesth Analg* 2002;95:1777–81). Some discussion also ensued about the potential value of higher concentrations of inspired oxygen in the perioperative period to promote healing and maintain immune function.