

ASA 2006 Review: Scientific Papers & Oral Presentations

Six abstracts listed, five presented

Reviewed by Rita Agarwal MD, FAAP

Moderators: Zeev Kain MD and Sulpicio Soriano, MD, FAAP

Anesthetic Management of the Pediatric Bleeding Tonsil: A Review of 475 Patients

Ryan G. Fields, D.O., M.B.A., Chadd Davidson, B.S., Ronald S. Litman, D.O. Department of Anesthesiology and Critical Care, Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

Data on the anesthetic management and complications of post tonsillectomy bleeds are limited. The authors of this study analyzed the computerized anesthetic records for 475 consecutive patients presenting for operative intervention, over a 7 year period (1998-2005). Amongst the variables they reviewed they found an incidence of hypoxia in 28 % of patients on induction of anesthesia, 15% intra-operatively and 1% in the postoperative period. There was a 2.7% incidence of failed intubation and 0.6% incidence of intra-operative blood transfusion.

A Multivariate Model To Predict Pediatric Sedation Failure

Michael L. Beach, M.D., Ph.D., Joseph P. Cravero, M.D. Anesthesiology, Dartmouth Medical School, Lebanon, New Hampshire

Frequency of Inadequate Sedation/Anesthesia: Comparison between Provider Types and Procedures

Joseph P. Cravero, M.D., George T. Blike, M.D., Susan M. Gallagher, B.S., Michael Beach, M.D., Ph.D. Anesthesiology, Dartmouth Hitchcock Medical Center, Lebanon, New Hampshire

Both of these presentations used data from the Pediatric Sedation Research Consortium- a group of 26 participating institutions which collect data on all pediatric sedations in a blinded fashion. The first presentation focused on the data collection techniques and tools, which included 24 question sets. Logistic regression was used to construct a multivariate model. The second abstract focused on the frequency of inadequate sedation and the influence of the type of procedure and provider. Both found that the incidence of sedation failure was very low across provider types, but was highest for radiology procedures and for non-anesthesiologists.

Both presentations elicited a great deal of commentary and questions from the audience. Dr Rob Smith from Alaska summed it up nicely when he

stated that in light of the fact that is an example of the failure of anesthesia to reach out to other specialties.

Cardiac Arrest in Pediatric Patients Undergoing Non-cardiac Surgery

Tracy E. Harrison, M.D., Stephen J. Gleich, B.S., Randall P. Flick, M.D., M.P.H., Darrell R. Schroeder, M.S., Juraj Sprung, M.D., Ph.D.. Department of Anesthesiology, Mayo Clinic College of Medicine, Rochester, Minnesota

A retrospective chart review, using the Mayo Clinic Anesthesia Performance Improvement database was undertaken to identify cardiac arrest (CA) in pediatric patients either during surgery or within 24 hours of surgery. The study period was from 1988-2005, 88,504 anesthetics were delivered during this time and 26 cardiac arrests were identified. The overall incidence was 2.9/10,000 anesthetics. The majority of patients who suffered CA were ASA 3 or greater and the majority were either associated with their co-morbidity, hemorrhage or embolism. Only 4 episodes were thought to be caused by anesthesia. Overall survival was 46%; however 75% of patients whose cardiac arrest was related to anesthesia survived. All neonates who arrested died, however in all cases the cause of their arrest was not related to anesthesia.

The Neurotoxic Effects of Ropivacaine on the Spinal Cord of Pup Rabbits

Qing-Quan Lian, M.D., Ph.D., Mei-Qin Di, M.S. Department of Anesthesiology, Huazhong University of Science and Technology, Wuhan Union Hospital, Wuhan, Hubei, China

These investigators randomly injected 3 different concentrations of ropivacaine, tetracaine or saline intrathecally into 45 day old Japanese white rabbit pups. The animals were sacrificed at 3 hours, 6 hours or 7 days after the injections and their spinal cord (L5-6 segment) examined for signs of apoptosis and the apoptosis correlated gene. With 0.25% ropivacaine, 0.5% ropivacaine and saline, there were minimal changes and swelling. 0.75 % ropivacaine and tetracaine had typical apoptotic changes at 3 hours, which increased at 6 hours and were still present but in lesser concentrations at 7 days. The authors conclude that 0.5% and 0.25% ropivacaine may not be injurious to the spinal cord in rabbit pups.