

Journal of Neurosurgical Anesthesiology:

April 2003 - Volume 15 - Issue 2 - pp 165-167

Society of Neurosurgical Anesthesia and Critical Care (Snacc) Newsletter

Society of Neurosurgical Anesthesia and Critical Care (SNACC) Newsletter: Report of the 2002 Annual Meeting, Orlando, Florida

Cheng, Mary Ann* ; Soriano, Sulpicio G.† ; Vavilala, Monica S.‡ ; Domino, Karen B.‡



Author Information

*Department of Anesthesiology, Washington University School of Medicine, St. Louis, Missouri, †Department of Anesthesia, Harvard Medical School, Boston Children's Hospital, Boston, Massachusetts, and ‡Department of Anesthesiology, University of Washington School of Medicine, Seattle, Washington

Address correspondence to Karen B. Domino, MD, MPH, Department of Anesthesiology, University of Washington, 1959 NE Pacific Street, Box 356540, Seattle, WA 98195-6540 (e-mail: kdomino@u.washington.edu).

SNACC Dinner Symposium, October 10, 2002: Mary Ann Cheng, MD

The SNACC Dinner Symposium was held on Thursday, October 10, 2002, at the Rosen Center in Orlando, Florida. This year the symposium was made possible by an unrestricted educational grant from Abbott Laboratories and was presented jointly by the SNACC and ASCCA. The educational portion of the evening began with opening remarks by SNACC President Daniel J. Cole, MD (Loma Linda University, CA). The session was moderated by the ASCCA President Neal H. Cohen, MD (University of California, San Francisco).

E. Wesley Ely, MD, MPH (Associate Professor, Vanderbilt University School of Medicine, Nashville, TN), gave the first presentation of the evening. His talk was entitled Introduction of the CAM ICU Delirium Assessment Tool and BIS XP ICU Technology for Sedation Assessment. Dr. Ely focused on the definition and diagnosis of delirium in the ICU, the impact of delirium on outcomes in ICU patients, and methods of monitoring delirium. He suggested monitoring a triad of arousal, delirium, and physiologic brain activity in the ICU. Arousal can be assessed using a scale such as the Richmond agitation sedation scale, which rates patients from +4 (combative) to -4 (unarousable). Delirium may be rated with the confusion assessment method-ICU, which takes into consideration acute mental status changes, inattention, disorganized thought, and altered level of consciousness. Physiologic brain activity can be measured using the BIS XP with modifications to the algorithm making it more appropriate for ICU use.

Richard C. Prielipp, MD (Wake Forest University Medical School, Winston-Salem, NC), was the second speaker. His talk was about the experience of ICU patients with recall of distressful ICU

events and the importance of sedation in this setting. Dr. Prielipp also discussed the effects of dexmedetomidine, an α -2 agonist used in the ICU setting as a sedative, on CBF. He concluded that sedation is critical to optimize ICU safety, dexmedetomidine decreases both regional and global CBF, and consideration must be given to CBF effects of sedatives used in the ICU.

Arthur M. Lam, MD, FRCPC (Professor of Anesthesiology and Neurological Surgery, University of Washington Medical School, Seattle, WA), made the third presentation of the evening. He summarized the findings of his study entitled The Influence of Dexmedetomidine on CO₂ Reactivity and Cerebral Autoregulation in Volunteers. The results of the study of eight volunteers demonstrated that dexmedetomidine decreased CBF velocity measured with transcranial Doppler recording, caused a slight reduction in CO₂ reactivity (but remained within normal limits), had no significant effects on cerebral autoregulation, and decreased BIS readings.

A lively question and answer session ensued with participants and the panel. The evening concluded with a short presentation by Dr. Ely on the effects of alcohol on various causes of morbidity and mortality. His conclusion was that wine had better effects on outcomes than beer.

SNACC Annual Meeting Report, October 11, 2002: Sulpicio G. Soriano, MD

The Society for Neurosurgical Anesthesia convened in October 11, 2002, at the Rosen Center Hotel in Orlando, Florida. Piyush Patel, MD (San Diego, CA), organized the program that appealed to the diverse interests of the basic science and clinical members of the society. Scientific abstracts were also presented in the meeting and are published in the October 2002 issue of this journal.

The basic science topics focused on specific issues in neuronal development and cell death. Greg Lemke, PhD (Director, Molecular and Neurobiology Laboratory, The Salk Institute for Biological Studies, La Jolla, CA), shared with the audience his personal quest for the topographic connection between the eye and the brain (1). He presented elegant work from his laboratory that linked several candidate genes associated with neural tracking. In a talk entitled Mechanisms of Ischemic Neural Cell Death and Neuroprotective Interventions, Gary Fiskum, PhD (Research Director, Department of Anesthesiology, University of Maryland School of Medicine, Baltimore, MD), provided a review of biochemical pathways of apoptosis after ischemia reperfusion injury (2). He also identified mediators that in turn are potential therapeutic targets for neuroprotection (3). Tracy McIntosh, PhD (Director, Head Injury Center, University of Pennsylvania, Philadelphia, PA), lectured on Molecular and Cellular Sequelae of Experimental Traumatic Brain Injury: Implications for Novel Therapeutic Strategies. He identified specific mechanisms of head injury, discussed the molecular basis of neuronal death after traumatic brain injury, and proposed several avenues for treatment (4,5). The 2002 recipient of the SNACC Young Investigator Award was Kirstin M. Erickson, MD (Mayo Clinic and Mayo Medical School, Rochester, MN). Her work entitled Anesthetic Technique Influences Brain Temperature, Independent of Core Temperature, During Craniotomy in Cats demonstrated that high-dose pentobarbital directly reduces brain temperature, perhaps by decreasing CMRO₂ (6).

The clinical sessions featured Guy L. Clifton, MD (Chairman of Neurosurgery, University of Texas, Medical School, Houston, TX), who reviewed the results of the multiple center trial entitled, National Acute Brain Injury Study: Hypothermia. This trial attempted to identify the impact of hypothermia on admission after traumatic brain injury (7). Data supporting the direct beneficial effect of induced hypothermia upon admission were inconclusive. Dr. Clifton suggested that two factors, preadmission hypothermia and postadmission warming, may have confounded the

outcome. John C. Drummond, MD (San Diego, CA), moderated three problem base learning discussions: spine surgery with intraoperative SSEP changes presented by Michael E. Mahla, MD (Gainesville, FL); craniostyosis repair in a 3-month-old presented by Sulpicio G. Soriano, MD (Boston, MA); and postoperative hyponatremia in a patient with aneurysmal subarachnoid hemorrhage presented by Andrew J. Baker, MD (Toronto, Ontario, Canada). The clinical session concluded with an SNACC report on practice patterns by Marek A. Mirski, MD, PhD (Baltimore, MD), followed by a lively debate on whether the SNACC should adopt practice standards or guidelines moderated by Adrian W. Gelb, MB, ChB (London, Ontario, Canada), with Arthur Lam, MD (Seattle, WA), pleading a case for the institution of standards and Gregory Crosby, MD (Boston, MA), arguing against.

The Distinguished Service Award was conferred to Harvey M. Shapiro, MD (San Diego, CA), for his landmark contributions to the field of neurosurgical anesthesia. The first Teacher of the Year Award was given to Verna L. Baughman, MD (Department of Anesthesia, University of Illinois, Chicago, IL). The luncheon was highlighted by a lecture on Peri-operative Use of COX-2 Inhibitors by Girish P. Joshi, MB, BS (Department of Anesthesia, University of Texas, Southwestern Branch, Dallas, TX), supported by an unrestricted educational grant from Pharmacia. The annual meeting will reconvene on Friday, October 10, 2003, at the St. Francis Hotel in San Francisco, California.

SNACC/ASA Breakfast Panel, October 15, 2002: Monica S. Vavilala, MD

The 30th annual SNACC Breakfast Panel at the ASA Meeting in Orlando, Florida, was attended by \approx 180 people. This year's panel titled Current Concepts in Adult and Pediatric Central Nervous System Injury was moderated by Monica S. Vavilala, MD (University of Washington School of Medicine, Seattle, WA). The salient differences between adults and children were mentioned in each of the presentations.

The first presentation, by Patricia Petrozza, MD (Wake Forest University, Winston-Salem, NC), addressed updates in the management of spinal cord injuries. Dr. Petrozza mentioned that the latest National Acute Spinal Cord Injury (NASCIS III) trial supporting the use of steroids indicates that patients who receive intravenous methylprednisolone (30 mg/kg) within 3 hours of injury should continue the treatment regimen for 24 hours, while patients who receive steroids within 3 to 8 hours after injury should continue steroid therapy for 48 hours. Cervical spine injury complicates airway management. Midline stabilization and immobilization are preferred over traction. Both laryngeal mask airway and intubation laryngeal mask airway are associated with some degree of cervical displacement. Children are more prone to upper cervical spine injuries than adults. Upper spine dislocation, cervical spine fractures, and spinal cord injury without radiographic abnormality are the common patterns of pediatric injury. A careful history and an index of suspicion for delayed neurologic presentation help make a timely diagnosis of spinal cord injury without radiographic abnormality. Dr. Petrozza concluded by saying that outcome for incomplete injuries are more favorable in children than adults.

The second speaker was Arthur M. Lam, MD (University of Washington School of Medicine, Seattle, WA), who discussed various aspects of neuromonitoring modalities for traumatic brain injury. Dr. Lam described several types of monitors used after traumatic brain injury: cerebral function monitors (electroencephalogram and somatosensory evoked potentials), ICP monitors, cerebral hemodynamic monitors (transcranial Doppler recording, SPECT scanning, and xenon computed tomography), and cerebral oxygenation and metabolism monitors (jugular venous oxygen saturation and parenchymal P_{O_2} , P_{CO_2} , and pH). Dr. Lam emphasized that there is no class

I evidence in support of neuromonitoring for head injury and that the goals of neuromonitoring are optimization of the patient's physiologic condition and prediction of outcome after injury.

The final speaker at the SNACC Breakfast Panel was Sulpicio G. Soriano, MD (Boston Children's Hospital and Harvard Medical School, Boston, MA). Dr. Soriano presented information about CPP management in traumatic brain injury, particularly in children. Children have a greater percentage of cardiac output delivered to the brain, and the range of cerebral autoregulation is assumed to be narrower than in adults. Although open fontanelles and suture lines help prevent the increase in ICP, the pressure volume index in infants is lower than that in children and adults. Dr. Soriano also mentioned that while hyperemia has traditionally been a distinguishing feature of pediatric traumatic brain injury, recent evidence indicates that hyperemia may not be as common as previously thought. Dr. Soriano commented that blood pressure management in children with traumatic brain injury is challenging because there are no prospective studies addressing the relationships between CPP and outcome. Retrospective data indicate that CPP of 50 mm Hg may be needed to help prevent cerebral ischemia. Dr. Soriano concluded by saying that controlled trials including children with traumatic brain injury are lacking and hence management guidelines of pediatric head injury are currently extrapolated from adults.

REFERENCES

1. Brown A, Yates PA, Burrola P, et al. Topographic mapping from the retina to the midbrain is controlled by relative but not absolute levels of EphA receptor signaling. *Cell* 2000; 102:77-88.
2. Kowaltowski AJ, Cosso RG, Campos CB, et al. Effect of Bcl-2 overexpression on mitochondrial structure and function. *J Biol Chem* 2002; 277:42802-7.
3. Fiskum G. Mitochondrial participation in ischemic and traumatic neural cell death. *J Neurotrauma* 2000; 17:843-55.
4. Laurer HL, McIntosh TK. Pharmacologic therapy in traumatic brain injury: update on experimental treatment strategies. *Curr Pharm Des* 2001; 7:1505-16.
5. Lenzlinger PM, Morganti-Kossmann MC, Laurer HL, et al. The duality of the inflammatory response to traumatic brain injury. *Mol Neurobiol* 2001; 24:169-81.
6. Erickson KM, Lanier WL. Anesthetic technique influences brain temperature, independent of core temperature, during craniotomy in cats. *J Neurosurg Anesthesiol* 2002; 14:329.
7. Clifton GL, Miller ER, Choi SC, et al. Hypothermia on admission in patients with severe brain injury. *J Neurotrauma* 2002; 19:293-301.

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