President’s Message

Reinvigorating a Growing Organization

Gerald A. Maccioli, M.D., F.C.C.M.
Raleigh, North Carolina

The ASCCA Executive Committee and Board of Directors have remained busy on a variety of fronts since the 2006 Annual Meeting. The ASCCA Annual Meeting is the crown jewel of our Society. Last year’s meeting in Chicago, Illinois, in October boasted the highest attendance so far and, in my opinion, showcased some of the best content ever.

This year’s meeting, under the able stewardship of Michael O’Connor, M.D., and Avery Tung, M.D., promises to raise the bar even higher. Elsewhere in this newsletter, our program co-chairs provide an early glimpse of this year’s events (page 8).

Moving Forward

Following our Annual Meeting, the ASCCA leadership has undertaken a complete revision of our corporate Bylaws, which are now more than a decade old. This process has resulted in a proposal for a revised, robust and streamlined organization to meet the needs of our subspecialty. The final version will be made available on our Web site prior to presentation to the membership for approval at the Society’s 2007 annual membership business meeting in San Francisco.

As part of our restructuring, reorganization and reinvigoration process, virtually all of our committees have a new chair and new members. My thanks to all of you who have volunteered to serve our organization in these new roles. I look forward to working with all of you and seeing the results of your efforts. (Please see the attached table of our new committee chairs on page 3.) In order to facilitate communication and productivity, I have asked our Executive Director to inquire about having listserves created for use by ASCCA committees. These should be up and running very soon.

Unexpected Changes

Recently, the Anesthesiology editorial board held a retreat and decided that an affiliation with subspecialty societies such as ASCCA and the Society for Obstetric Anesthesia and Perinatology is not part of their long-term strategic goals. As of December 2007, our relationship with Anesthesiology will end. The Executive Committee and Board of Directors are exploring a variety of options and have initiated discussions for a new journal affiliation. There will be more to come on this issue and its resolution over the next few months.

Ideas We Are Considering

With our Annual Meeting attracting a great many anesthesiology residents, we are investigating the possibility of a two-hour Thursday evening session aimed at developing a career in critical care medicine. I am asking our Committee on Education to study the feasibility of this concept and report back to the Executive Committee. Furthermore we are looking into greater integration of our Canadian and South American members and extending participation and voting rights to international members as well.

Administrative Changes

I am pleased to announce that we have a new Executive Director, Christine “Chris” Dionne. Chris comes to us with considerable experience in association management. She joins the very able team of Executive Director Emeritus Gary W. Hoorman and Administrative Assistant Julie Goldberger. We once again would like to extend our heartfelt thanks and best wishes to former executive director, Julie Davis, who has relocated to North Carolina.

Politics and the Future

Like almost everything else in life, politics is real — like it or not. A great number of our members are actively involved in their home institutions — but how many of you are involved in your ASA component society? My guess is not many, and that absolutely has to change. Each component elects delegates to the American Society of Anesthesiologists (ASA) House of Delegates (HOD), and we need more anesthesia-based intensivists in the HOD — period! As a small but dedicated group of

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E-mail
You may e-mail inquiries to ASCCA at the following addresses:
General inquiries:
ascca@ASAhq.org
Meeting information:
asccameetings@ASAhq.org
Membership information:
asccamembership@ASAhq.org

Web Page
You may visit the ASCCA Web site at:
www.ascca.org

Membership
Membership in ASCCA is open to all anesthesiologists and residents in approved anesthesiology programs. Membership applications may be obtained by writing to ASCCA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573 or through the ASCCA Web site at www.ascca.org/membership.html.

EDITORIAL NOTES

Editorial Policy
The opinions presented are those of the authors only, not of ASCCA. Drug dosages, accuracy and completeness of content are not guaranteed by ASCCA.

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A great number of our members are actively involved in their home institutions — but how many of you are involved in your ASA component society? My guess is not many, and that absolutely has to change.

individuals, a key to our success is the ability to leverage our parent organization’s strength, and that, my friends, comes from the ASA HOD. I encourage all of you to get involved in your state component society and to become a delegate!

As some of you may have heard, “Telemedicine Codes” are now up for discussion. Many questions surround this concept, and the landscape remains dynamic. ASCCA President-Elect Todd Dorman, M.D. (Dr. Dorman has fully disclosed his position as a stockholder in VISICU” and has offered to recuse) is intimately involved in this process, and together he and I are working with the ASA Committee on Economics on how to best represent ASCCA’s position vis-à-vis the other critical care organizations at the table. This is yet another example of why being involved in the political process is so important; but we need more intensivists voices!

Thank you again for the opportunity and privilege to serve as your president. Please do not hesitate to contact me with questions or comments.

Gerald A. Maccioli, M.D., F.C.C.M.
ASCCA President
A 22-year-old male who sustained a single gunshot wound to the left lower quadrant of the abdomen, and was reportedly pulseless at the scene, was resuscitated and intubated and subsequently transferred from an outside hospital to a tertiary care trauma center where he went directly to the operating room (O.R.). He underwent an exploratory laparotomy, resection of his small intestines with two anastomoses and the repair of his left iliac artery.

On postoperative day one number (POD1), he remained ventilated, sedated and with good urine output. On POD3, a chest radiogram obtained for an episode of desaturation revealed new bilateral perilobar infiltrates. ABG during this episode showed a pH 7.25, PaCO$_2$ 59 mmHg, PaO$_2$ 82 mmHg on following respirator settings: tidal volume 400 ml, respiratory rate 22/min, PEEP 20 cm H$_2$O, FiO$_2$ 0.8. A subsequent chest CT confirmed the diagnosis of ARDS [Figure 1], and lung-protective ventilation was continued. The patient remained on propofol at a rate of 4.8 to 6.0 mg/kg/hr so that optimal PEEP could be achieved. He remained neurologically intact with equal and reactive pupils.

On POD4 the patient began to develop worsening metabolic acidosis and respiratory failure with rising bladder pressures and low urine output. He was febrile with an elevated WBC. The decision was made to take him back to the O.R. with a suspected diagnosis of abdominal compartment syndrome. The abdomen was left open, and initially the patient improved. On the next day (POD5), however, the patient's clinical status further deteriorated. He became hypotensive, and vasoactive therapy (norepinephrine) was started. ABG showed worsening acidemia and hypoxemia (pH 7.21, PaCO$_2$ 46 mmHg, PaO$_2$ 136 mmHg, bicarb 19 mEq/L, BE -9 mEq/L, on FiO$_2$ of 1.0). Of note, laboratory results showed blood samples to be grossly lipemic. In addition, the patient had elevations of his LFTs with an ALT of 119 IU/L, AST of 429 IU/L, LDH of 300 IU/L and CKs in the range of 15,000 IU/L. He was diagnosed with rhabdomyolysis and continued to have worsening UOP. At this time, his propofol was discontinued and changed to a continuous midazolam infusion for sedation out of concern for a developing propofol infusion syndrome (PRIS).

By POD5, continuous renal replacement therapy (CRRT) was started for fluid overload and academia. The patient developed a new RBBB. TEE showed no evidence of endocarditis, only a trace amount of mitral regurgitation. Wide spectrum antibiotics were started for a persistently elevated white blood cell count and spiking temperatures. On physical examination, he was noted to have a new bruise in his left femoral groin. Vascular surgery was consulted, who felt that this was due to a new left iliac arteriovenous fistula that was consistent with his elevated mixed venous saturations.

On POD6 the patient was noted to have a dilated left pupil. An emergent head CT showed diffuse severe cerebral edema, central herniation and hypodensities in the posterior corpus callosum [Figure 2]. Neurosurgery placed an intracranial bolt, which revealed initial intracranial pressures of 48 mmHg, trending down to 20 later that evening. He was unresponsive to pain with flaccid tone but did have corneal reflexes. An EEG was consistent with severe encephalopathy and no seizure activity. Treatment of his elevated ICP was complicated by the inability to administer mannitol due to his ongoing anuric renal failure and need to remain on CRRT. He was therefore treated with hypertonic saline.

By POD10 the patient began to show slight improvement, with positive corneal reflexes, movement in all extremities, local- ization in the left upper extremity and spontaneous eye opening. His PA catheter and intracranial pressure monitor were removed on POD12, rhabdomyolysis was resolving and his creatinine had decreased to 1.4 mg/dL. CRRT was discontinued. On POD14 he returned to the O.R. for mesh closure of his abdomen, and a tracheostomy and PEG tube were placed. By the time of discharge, he was neurologically intact with a mild visual acuity deficit in his left eye. He had been seen in follow-up in the trauma clinic, and his tracheostomy and PEG tube were removed soon thereafter.

**Discussion**

Propofol is a drug commonly used for sedation in the ICU. It is especially useful in head trauma patients because of its pharmacokinetic characteristics. Its rapid redistribution and the rapid reversibility of sedation allow patient evaluation a short time after the drug is discontinued. The recommended dose for maintenance of sedation in the ICU patient is 0.3-3 mg/kg/hr, which is much lower than that recommended for induction and maintenance of general anesthesia (6-12 mg/kg/hr).1

Propofol infusion syndrome is manifested by severe metabolic acidosis, rhabdomyolysis, renal failure and cardiac dysrhythmias. The underlying biochemical process involves blockade of mitochondrial fatty oxidation, which in turn leads to a build-up of free fatty acid. The imbalance between energy supply and demand is thought to lead to the necrosis of cardiac and peripheral muscle. Often CK, troponin I and myoglobin are elevated. The syndrome has been described as occurring in

Konstantin Balonov, M.D.
the setting of priming factors and triggering factors. It has been hypothesized that critical illness is the priming factor and that high-dose propofol, catecholamines, or steroids are the triggering factors.\(^2,3\)

The first cases of a syndrome associated with propofol use were reported in the pediatric literature. In 1992, Parke et al. reported the deaths of five children who were receiving propofol infusions as part of the treatment of severe upper-respiratory tract infections. Their clinical presentations included lipemia, metabolic acidosis, bradycardia and profound cardiac failure that progressed to death despite resuscitation. The infusion rate and duration of propofol infusion were 7.4 to 10 mg/kg/hr and 74-115 hours, respectively.\(^4\) The first case of propofol infusion syndrome in an adult was reported in 2000.\(^5\) The patient was an 18-year-old male involved in a high speed MVC. He suffered multiple injuries, including a severe closed-head injury. After being maintained on propofol at a rate of 5.8 to 7.6 mg/kg/hr for 98 hours, he developed metabolic acidosis, hyperkalemia, lipemia, atrial fibrillation and left bundle-branch block with bradycardia followed by pulseless electrical activity, which progressed to asystole and death.

Cremer et al. reported one of the largest series of propofol infusion syndrome in adults.\(^6\) This study, which was a retrospective cohort analysis involving head-injured adult patients admitted to a neurological ICU from 1996 to 1999, showed a direct correlation between the dose and the likelihood of developing the syndrome. The odds ratio for propofol infusion syndrome was 1.93 (95 percent CI) for every mg/kg/hr increase in the dose above 5 mg/kg/hr. In all seven cases, in which death resulted, the rate was higher than 5 mg/kg/hr for > 58 hours. As a result of the multiple reported deaths associated with prolonged, high-dose propofol, the Society of Critical Care Medicine and the American College of Chest Physicians issued a warning stating that prolonged use of propofol (>48 hours) at high doses (>66 ug/kg/min) might be associated with lipemia, lactic acidosis and bradycardia in children and that doses of >83 ug/kg/min in adults may lead to increased risk of cardiac arrest.\(^7\)

Our case illustrates an example of propofol infusion syndrome in a critically ill trauma patient. The patient was maintained on high doses of propofol for a prolonged period because of severe ARDS, which was likely the priming factor for development of the syndrome. The average dose over the entire interval of infusion was 4.4 mg/kg/hr; however, the average dose over the first 60 hours of infusion was 5.5 mg/kg/hr, and the average dose over the last 33 hours of infusion was 5.6 mg/kg/hr. His initial decline was thought to be secondary to abdominal compartment syndrome; however, it rapidly became apparent that the propofol was the inciting factor. Unique to this patient was the development of diffuse cerebral edema, a finding that should be kept in mind when caring for a patient with propofol infusion syndrome.

References:
2. Vasile B, Rasulo F, Candiani A, Latronico

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Program Schedule

6:45 a.m. – 5:30 p.m.
Registration

7 a.m. - 7:25 a.m.
Continental Breakfast

7:25 a.m. - 7:30 a.m.
Welcome and Introduction
Co-Chairs: Avery Tung, M.D.
Michael F. O’Connor, M.D.

Protocols, Prognosis Scores, and Process Measurements: What is the Role of the Intensivist?
Moderator and Introduction:
Andrew D. Friedrich, M.D.

7:30 a.m. - 8 a.m.
Protocols: The Good, the Bad, and the Ugly
Nicholas Sadovnikoff, M.D.

8 a.m. - 8:30 a.m.
Prognosis Scores: Better Care?
Andrew L. Rosenberg, M.D.

8:30 a.m. - 9 a.m.
Processes or Outcomes?
Todd Dorman, M.D., F.C.C.M.

9 a.m. - 9:05 a.m.
Introduction of Distinguished Lecturer
Heidi B. Kummer, M.D., M.P.H.

9:05 a.m. - 10 a.m.
I Have Protocols So Why Do I Need a Closed ICU?
Hilmar Burchardi, M.D.

10 a.m. - 10:30 a.m.
Break and Poster Viewing

10:30 a.m. - 11:25 a.m.
Interactive Clinical Forum
Moderator: Avery Tung, M.D.
Panel: Hilmar Burchardi, M.D.
Michael S. Avidan, M.B., B.Ch.
Aryeh Shander, M.D.
Andrew D. Friedrich, M.D.

11:25 a.m. - 11:30 a.m.
Introduction of ASA President-Elect
Gerald A. Maccioli, M.D., F.C.C.M.

11:30 a.m. - Noon
Address by the ASA President-Elect
Jeffrey L. Apfelbaum, M.D.

Noon - 1 p.m.
Lunch

Clinical and Basic Science Update
Moderator: Stephen Luczykcki, M.D.

1 p.m. - 1:30 p.m.
Resistant Infections in the ICU: What Can/Should the Intensivist Do?
Michael S. Avidan, M.B., B.Ch.

1:30 p.m. - 2 p.m.
Sepsis: What’s New in Basic Science Update
Judith Hellman, M.D.

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2 p.m. - 2:30 p.m.
**Sepsis: What’s New in Clinical Management**
Stephen Luczykcki, M.D.

2:30 p.m. - 3:15 p.m.
**Break and Facilitated Poster Viewing**
Facilitators: Stephen O. Heard, M.D., F.C.C.M.
Neal H. Cohen, M.D., M.P.H., M.S., F.C.C.M.
Clifford S. Deutschmann, M.D., F.C.C.M.
Robert N. Sladen, M.D., F.C.C.M.

3:15 p.m. - 3:45 p.m.
**Introduction and Presentation of Burchardi Award to**
Michael J. Breslow, M.D., F.C.C.M.
Daniel R. Brown, M.D., Ph.D.

3:45 p.m. - 4:15 p.m.
**Young Investigator Award and Presentation of Abstract**
Richard J. Levy, M.D.

4:15 p.m. - 5:15 p.m.
**Pro-Con — Simulation: Should It Be Part of ICU Training?**
Pro: Geoffrey K. Lighthall, M.D., Ph.D.
Con: Michael F. O’Connor, M.D.

5:30 p.m. - 6 p.m.
**ASCCA Annual Business Meeting**

6 p.m. - 8 p.m.
**Wine and Cheese Reception**

*The Annual Meeting program brochure, including registration information, will be mailed out in mid-June.*

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**CME Accreditation**

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American Society of Anesthesiologists and the American Society of Critical Care Anesthesiologists. The American Society of Anesthesiologists is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing medical education for physicians. The American Society of Anesthesiologists designates this educational activity for a maximum of 7.25 AMA PRA Category 1 Credit(s)™. Physicians should only claim credit commensurate with the extent of their participation in the activity.

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**Learning Objectives**

- To evaluate current basic and clinical research relevant to the art and science of critical care anesthesiology.
- To define and evaluate potential benefits and risks of protocols in ICU care.
- To discuss prognosis scores and describe their role in ICU quality control.
- To compare the relative benefits of measuring processes or outcomes in the ICU.
- To identify and discuss current clinical decision-making dilemmas in critical care.
- To describe potential roles of the intensivist in managing resistant infections in the ICU.
- To summarize recent advances in the clinical management of sepsis in the ICU.
- To identify and evaluate recent advances in basic science related to sepsis in the ICU.
- To assess the scientific and clinical importance of posters presented at the meeting with clinical leaders in critical care.
- To debate the effectiveness and/or importance of simulation in ICU training.
Hotel and Airline Reservations

The host hotel for the ASCCA 20th Annual Meeting is the Grand Hyatt San Francisco on Union Square, 345 Stockton Street, San Francisco, California 94108, telephone (415) 398-1234. The room rate is $234 for single or double occupancy. Hotel reservations must be made by September 19, 2007 through the ASA Annual Meeting Housing Bureau. Please see: www2.ASAhq.org for more information and specific instructions.

Airline Discount
United, ASA’s Official Airline, is offering special meeting discounts for 2007 Annual Meeting attendees. By purchasing your ticket more than 30 days in advance, you can receive a discount off applicable fares, including first class. There are two ways to purchase your tickets: call the United Special Meeting Desk at 1-800-521-4041, and refer to Meeting ID Number 502ZR or go online at www.united.com and use Promotion Code 502ZR.

ASCCA Breakfast Panel at ASA Annual Meeting

Be sure to join us on...

Saturday, October 13, 2007
7 a.m. to 8:15 a.m.
Moscone Center West
Room 3005

Title of Program: Bringing Critical Care to Perioperative Care
Objective: To inform practicing anesthesiologists about developments in critical care that are applicable to anesthesia practice.

What’s New With Anesthesia Ventilators
Moderator: Avery Tung, M.D., Associate Professor of Anesthesia and Critical Care, University of Chicago, Chicago, Illinois

New Concepts in ACLS: Lessons for the Anesthesiologist
Faculty: Andrea Gabrielli, M.D., FCCM, Associate Professor of Anesthesiology and Surgery, Division of Critical Care Medicine, University of Florida, Miami, Florida

Vasopressin: When and How to Use It
Faculty: Mark E. Nunnally, M.D., Assistant Professor of Anesthesia and Critical Care, University of Chicago, Chicago, Illinois
I am writing to you in my capacity as Chair of the American Society of Anesthesiologists (ASA) Overseas Teaching Program. I don’t know if you have taken the opportunity to read about our programs on the ASA Web site www.asahq.org/OTP, but they are becoming busier and more sophisticated. Both of our programs in Rwanda and Tanzania are involved in “residency” programs as well as in teaching nurse anesthesia and assistant medical officers. The program (M.Med) was started in Rwanda in collaboration with the Canadian Anesthesiologists’ Society International Education Fund (CASIEF). We are pleased to report that the program there is going very well. A unique feature of that program is that there are two university hospitals in Rwanda, one in Kigali and another two hours away in the city of Butare, which is the location of the main campus of the National University of Rwanda. The anesthesia residents rotate through both hospitals, as do our volunteers who spend two days per week teaching in Butare. Each society sends five volunteer faculty, each for a one-month rotation, per year.

The original training program at Kilimanjaro Christian Medical Center in Moshi, Tanzania, had traditionally taught only nurse anesthetists and assistant medical officers. In 2003, ASA funded the Nicholas Greene scholarship for one physician who is now there on faculty. We are pleased to note that we will embark on a new physician teaching program there. It has been agreed that we will develop a four-year curriculum for graduate physicians entering into anesthesia. The curriculum will be structured so that completion of one year of training would qualify students to receive a Diploma of Anesthesia, but others can continue through the entire four years of the program and get the M.Med degree. The regular academic calendar for the university begins in October each year, so we will hope to have everything arranged for volunteers to start in 2008.

In addition to updating you on what is going on in the OTP program, I want to enlist your services in recruiting volunteers for these two programs for 2008 and beyond. Now that we are embarking on a four- to five-year curriculum leading to a Masters of Medicine in Anesthesia, we have a great need for volunteer faculty with clinical and didactic experience in teaching subspecialty anesthesia as well as the fundamentals. These programs have always functioned at the fundamentals of safety and maximum utilization of very limited resources. Needless to say, they need good teachers so these students can become the future teachers in their own country’s teaching hospitals. We would welcome your society sponsorship of one of your members as a volunteer (total cost approximately $2,000).

Equally needed are the educational and clinical resources to advance their practices to the next level. There is an acute shortage of equipment and supplies in every subspecialty (for example, ICUs, PACUs and O.R.s without pulse oximeters, ventilators, blood gas equipment, etc.). Pediatric equipment is almost nonexistent; and needles and drugs for any kind of regional anesthesia procedure (except minimal spinal needles and drugs) are equally scarce.

I would be most grateful if you could share our needs with your boards and membership and urge them to consider helping us with this important teaching task. Rotations are for a minimum of one month. ASA-OTP pays lowest possible roundtrip airfare. Housing is furnished by the host institution. The application forms are on the ASA Web site link to the OTP and can be sent to me or ASA headquarters for forwarding.

Donations of equipment, supplies, teaching materials and textbooks in the subspecialty also are appreciated. Please inquire about the need of any supplies to be certain they can be used there. Donations of money are best made to the WFSA Foundation with specific designation to the ASA OTP programs. As Chair of the WFSA Foundation, I will ensure that they are used for those programs. The WFSA Foundation is registered in the United States, so donations are tax deductible.

Thank you for your past and present support — we certainly need it. God bless.

Phillip O. Bridenbaugh, M.D., Chair
Committee on Overseas Anesthesia Teaching Programs
Propofol Infusion Syndrome: A Case Report

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