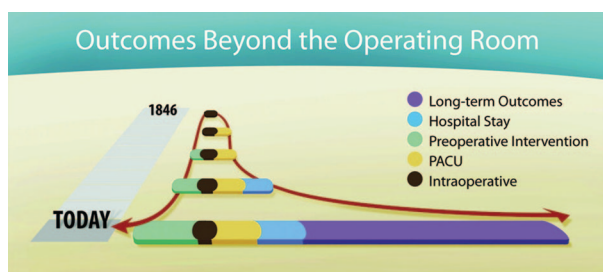


Journal-related Activities and Other Special Activities at the 2010 American Society of Anesthesiologists Annual Meeting

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19th Annual Journal Symposium: Outcomes Beyond the Operating Room

Tuesday, October 19, 2010, 8:00 AM to 11:00 AM, Upper 28E, San Diego Convention Center, San Diego, California.

The 2010 Journal Symposium will highlight up-and-coming and noteworthy concepts in anesthesia research and clinical practice. Anesthesiologists have generally considered their work done and successful if patients were well a day or two after surgery. However, there is increasing evidence that perioperative management has the potential to influence patient outcomes weeks, months, and perhaps even years after surgery. This symposium will explore aspects of anesthetic care most likely to be associated with alterations in long-term outcome.

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Three invited speakers will lead the session. Daniel I. Sessler, M.D., Professor and Chair, Department of OUTCOMES RESEARCH, The Cleveland Clinic, will discuss long-term consequences of intraoperative management; Philip J. Devereaux, M.D., Ph.D., Associate Professor, McMaster University Departments of Medicine (Division of Cardiology) and Clinical Epidemiology and Biostatistics, will describe how we can substantially cut the risk of major vascular complications among patients undergoing noncardiac surgery in the coming decade; and Simon C. Body, M.B., Ch.B., M.P.H., Assistant Professor of Anesthesiology, Brigham and Women's Hospital, Harvard Medical School, will discuss the team role of intraoperative transfusion management upon long-term outcomes.

These lectures will be followed by 10 abstracts presented orally and selected for their relevance to the Symposium topic. The text for each abstract can be found at the American Society of Anesthesiology (ASA) abstract Web site or in the CD-ROM that is included in this issue of the Journal.

"Can Regional Anesthesia for Lymph Node Dissection Improve Prognosis in Malignant Melanoma?" by Gerhard Brodner, Hugo Van Aken, Björn Ellger, and Hans-Joachim Schulze, Anaesthesie, Fachklinik Hornheide, Muenster, Germany and Anaesthesie, Universitätsklinik, Muenster, Germany. In a retrospective analysis, 52 patients having melanoma surgery and lymph node dissection under spinal anesthesia were compared with 221 who had general anesthesia with sevoflurane and sufentanil ($n = 118$) or total intravenous anesthesia with propofol and remifentanyl ($n = 103$). There was a trend ($P = 0.087$) toward significantly better cumulative survival over 10 yr after spinal anesthesia as compared with general anesthesia: mean survival time for spinal anesthesia was 96 months (95% CI: 81–110 months) compared with 70 months for general anesthesia (54–87 months). These data support the hypothesis that regional anesthesia might improve the long-run prognosis of malignant melanoma patients. The authors are conducting a randomized trial to confirm this hypothesis. [A1183]

"Preoperative Dexamethasone Enhances Quality of Life Measures after Hospital Discharge" by Glenn S. Murphy, Joseph W. Szokol, Michael J. Avram, Steven B.

Greenberg, and Jayla Gray, Anesthesiology, North Shore University Health System, Evanston, Illinois, and Anesthesiology, Northwestern University, Chicago, Illinois. The authors tested the hypothesis that low-dose dexamethasone administration improves postoperative health status. A total of 120 patients undergoing outpatient laparoscopic cholecystectomy surgery were randomized to receive either dexamethasone (8 mg) or saline an hour before surgery. Median global QoR-40 scores were significantly lower (poorer quality of recovery) in the control group (161) than in the dexamethasone group (178, $P < 0.0001$). Median QoR-40 scores in the dimensions of emotional state (35 *vs.* 41, $P < 0.0001$), physical comfort (45 *vs.* 51, $P < 0.001$), and pain (26 *vs.* 31, $P < 0.0001$) were all significantly lower in the control group compared with the dexamethasone group on POD 1. No differences in scores were noted between the two groups in the dimensions of psychologic support and physical independence. Patient-perceived quality of recovery was thus significantly enhanced in patients receiving dexamethasone. [A1184]

“Acute to Chronic Pain Transitions (ACPT) after Peripheral Nerve Injury: Genomic Insights” by Qiongzhen Li, Yanping Zhang, Richard W. Morris, Roy C. Levitt, and Eugene S. Fu, University of Miami, Miami, Florida; Hussman Institute of Human Genomics, University of Miami, Miami, Florida, and Miami Veterans Healthcare System, Miami, Florida. To evaluate genetic contributions to chronic pain, the sciatic nerve was loosely ligated in various strains of inbred mice. Withdrawal thresholds to mechanical pain (von Frey filaments to affected hind paw) were measured at baseline and on days 1 and 7. Haplotype association mapping (HAM) was conducted using snpBrowser™ (Applied Biosystems, Inc., Foster City, CA). Four loci on chromosomes 1, 4, 5, and 6 were associated with differences in mechanical response on day 1. On day 7, four regions on chromosomes 1, 4, 5, and 17 were associated with differences in mechanical response. Highly reproducible differences between strains for the ACPT demonstrate this neurobehavioral phenotype is heritable—and may help explain why neuropathic pain is resistant to treatment and rehabilitation. [A1185]

“Genetic Interactions in α -Adrenergic Signal Transduction Predict Survival after CABG” by Ulrich H. Frey, Eva Kottenberg, Gerd Heusch, Winfried Siffert, and Juergen Peters, University Hospital, Essen, Germany. The authors tested the hypotheses that single nucleotide polymorphisms (htSNPs) in the GNAS gene: a) determine a novel haplotype; b) are functionally active; c) influence survival after coronary artery bypass grafting (CABG); and d) interact with α -adrenergic SNPs. A total of 185 patients under AR-blockade and scheduled to undergo CABG were studied prospectively. Resequencing of GNAS intron 1 revealed two htSNPs creating a novel haplotype (GNAS *2) and demonstrating intermediate reporter activity compared to haplotype *1 and *3 constructs. *In vivo*, Gas protein expression was highest in *3 carriers followed by *2 and *1 haplotypes ($P = 0.019$). Mortality was diplotype-depen-

dent: *3/*3: 0%; *3/*3(*2): 3%, *2/*2(*1): 8%, *1/*1: 21% ($P = 0.002$). Thus, functional GNAS htSNPs result in haplotype-dependent differences in G-s expression, which are associated with altered mortality after CABG. [A1186]

“Postoperative B-type Natriuretic Peptide Associates with Longer-term Physical Function after CABG” by Amanda A. Fox, Edward R. Marcantonio, Charles D. Collard, Stanton K. Shernan, and Simon C. Body, Brigham & Women’s Hospital, Boston, Massachusetts, Beth Israel Deaconess Medical Center, Boston, Massachusetts, and Division of Cardiovascular Anesthesia, Texas Heart Institute, Houston, Texas. The authors tested the hypothesis that peak postoperative B-type natriuretic peptide (BNP) is associated with physical function assessed 1 and 2 yr after CABG surgery after adjusting for clinical risk factors, including preoperative physical function. A total of 755 patients had postoperative SF-36 physical function data. After multivariable adjustment, peak postoperative BNP remained independently associated with 1 and 2 yr physical function score (effect estimate for log₁₀ increase = -2.76 ; $P = 0.03$). Whether medical management to reduce postoperative BNP concentrations after CABG surgery will improve long-term physical function remains to be determined. [A1187]

“Perioperative Management of Antiplatelet Agents: Randomized, Double-blind, Placebo-controlled Trial” by Jean Mantz and For the STRATAGEM Study Group. Anesthesia and Intensive Care, Beaujon University Hospital, Clichy, France and Cardiology, Bichat Claude Bernard, Paris, France. This multicenter, randomized study compared the impact of maintenance *versus* discontinuation of aspirin throughout the perioperative period on bleeding and thrombotic outcomes in high-risk patients undergoing elective, noncoronary surgery. Antiplatelet therapy was substituted for aspirin (75 mg) or placebo 10 days before surgery. The primary endpoint was a score involving both major thrombotic and bleeding adverse events occurring within the first 30 postoperative days. No significant difference was observed in primary outcome scores between groups, including mortality. These data suggest that the rate of major thrombotic and bleeding complications in high-risk patients undergoing elective, noncoronary surgery does not differ significantly when aspirin is maintained throughout the perioperative period compared to patients in whom preoperative antiplatelet therapy is discontinued. [A1188]

“Smoking and Perioperative Outcomes” by Alparslan Turan, Jing You, Andrea Kurz, Leif Saager, and Daniel I. Sessler, Department of OUTCOMES RESEARCH, The Cleveland Clinic, Cleveland, Ohio. Telephone “quitlines” for smoking cessation have been shown to be of proven efficacy in helping callers quit smoking and are currently available in all states at minimal cost. This pilot trial determined the efficacy of brief intervention on the utilization of telephone quitlines for smoking cessation. Patients ($n = 300$) scheduled for elective noncardiac surgery were randomized to either receive a 3 min intervention focused on encouraging quitline use or a brief stop-smoking intervention of similar

duration that did not specifically encourage quitline utilization. Compared with the control group, the quitline intervention increased quitline utilization from 3% to 15% ($P < 0.001$). Although this study was not powered to evaluate abstinence outcomes, the continuous abstinence rate at 30 days after surgery was 25% in the quitline group, in contrast to 19% in the control group ($P = \text{NS}$). These data demonstrate that a brief provider intervention for smoking cessation significantly increased telephone quitline utilization. [A1189]

“Genome-wide Study Identifies Novel Variants Associated with Cognitive Decline after Cardiac Surgery” by Joseph P. Mathew, Mihai V. Podgoreanu, Sheng Feng, David B. Goldstein, and Mark F. Newman, Department of Anesthesiology, Duke University Medical Center, and Institute for Genome Sciences and Policy, Duke University, Durham, North Carolina. Using a genome-wide association scan, this study sought to determine genetic risk factors for postoperative cognitive dysfunction (POCD) in patients of European descent undergoing coronary artery bypass grafting with cardiopulmonary bypass. Postoperative cognitive decline was defined using factor analysis as a change between cognitive scores assessed at baseline and 6 weeks postoperatively. A total of 602 subjects had complete genotype and cognitive phenotypes. Four sequence variants on chromosome 6q16.1 were found to be strongly associated with POCD, even after adjusting for traditional risk factors associated with POCD (age, baseline cognition, years of education, and diabetes). All of the identified variants are near a gene known to have a critical role in cognitive performance (Ephrin A7 receptor, EPHA7). These data suggest that at-risk populations can be identified preoperatively and targeted with strategies to reduce POCD. [A1192]

“Deep Hypothermia during Aortic Arch Surgery with Circulatory Arrest Predicts Early Mortality” by Wei Pan, January Tsai, Scott A. LeMaire, and Joseph S. Coselli, Baylor College of Medicine, and Michael E. DeBakey, Department of Surgery, Baylor College of Medicine, Houston, Texas. This study compared perioperative outcomes in patients who underwent moderate (nasopharyngeal temperature 20°C; $n = 79$) versus deep (less than 20°C; $n = 149$) hypothermia during aortic arch repair with circulatory arrest and selective antegrade cerebral perfusion. Linear regression was used to determine whether deep hypothermia was independently associated with adverse postoperative outcomes. Compared with moderate hypothermia, deep hypothermia was independently associated with greater risk of in-hospital death (7.6% vs. 0.7%; OR 8.9; 95% CI 1.2–78.9; $P = 0.048$), early mortality (8.9% vs. 2.1%; OR 4.6; 95% CI 1.2–18.2; $P = 0.031$), hospital stay more than 10 days (59% vs. 44%; OR 1.9; 95% CI 1.1–3.5; $P = 0.026$), and longer CPB time (156 vs. 140 min; $P = 0.004$). These data suggest that deep hypothermia is an independent predictor of perioperative mortality and hospital stay. [A1191]

“Does Preoperative Aspirin Reduce Cardiocerebral Ischemic Events in Cardiac Surgery Patients?” by Longhui Cao, Nishanthi Kandiah, Scott Silvestry, Zvi Grunwald, and

Jian-Zhong Sun, Thomas Jefferson University and Cardiothoracic Surgery, Thomas Jefferson University, Philadelphia, Pennsylvania. This retrospective study investigated whether preoperative aspirin therapy reduces cardiocerebral ischemic events in patients undergoing cardiac surgery. Patients were divided into two groups: those taking ($n = 860$) or not taking ($n = 288$) aspirin within 5 days preceding surgery. Multivariate logistic regression revealed that preoperative aspirin use was independently associated with a reduced incidence of postoperative cardiocerebral ischemic events (8.6% vs. 12.9%; OR = 0.638; 95% CI 0.418–0.976; $P = 0.037$). Thirty-day mortality did not significantly differ between groups (4.2% vs. 5.8%; OR = 0.708; 95% CI 0.386–1.301; $P = 0.264$). These data suggest that preoperative aspirin use is associated with reduced major cardiocerebral ischemic events in patients undergoing cardiac surgery. [A1190]

Best Abstracts of the Meeting: ANESTHESIOLOGY Editors' Picks

Monday, October 18, 2010, 8:00 AM to 10:00 AM, Upper 26A, San Diego Convention Center, San Diego, California.

This is the third annual session of abstracts sponsored by ANESTHESIOLOGY and selected by Drs. Hugh C. Hemmings, Judy R. Kersten, and James C. Eisenach. The abstracts were selected based on broad interest and scientific importance and were selected from the top-rated abstracts as scored by each scientific subcommittee that evaluated abstracts for presentation at the Annual Meeting. This session highlights 12 outstanding abstracts, which will be presented in traditional oral format followed by a brief discussion.

“Smoking as a Strong Risk Factor for Severe Acute Postoperative Pain after Ambulatory Surgery” by Yun-Ying Shi, Marcel Durieux, Alparslan Turan, Anthony Kovac, and Apfel C. Christian, Anesthesia and Perioperative Care, University of California San Francisco, San Francisco, California; University of Virginia, Charlottesville, Virginia; General Anesthesiology, The Cleveland Clinic, Cleveland, Ohio; and, Kansas Medical Center, Kansas City, Kansas. Severe postoperative pain is associated with acute and chronic morbidity, and earlier small studies have identified smoking as a risk factor for severe postoperative pain. In this multicenter study of more than 2,100 patients undergoing ambulatory surgery, smoking doubled the likelihood of experiencing severe postoperative pain, with an incidence of 54% among smokers. [A788]

“Moderate Aerobic Exercise Reverses Neuropathic Pain through an Endogenous Opioid-mediated Mechanism” by Thomas P. Malan, Nicola J. Stagg, Heriberto P. Mata, Mohab M. Ibrahim, and Erik J. Henriksen, The University of Arizona, Tucson, Arizona. Exercise is often prescribed for chronic pain, and regular exercise reduces behavioral measures of chronic pain in animals. In rats with surgically-induced chronic neuropathic pain, regular exercise reduced measures of pain. This analgesic effect of exercise was prevented or acutely reversed by opioid receptor antagonists

administered systemically or intracerebroventricularly, but not spinally, suggesting that moderate exercise engages opioid receptors in the brain to relieve neuropathic pain. [A777]

“Genetic Contribution to the Pain and Progress of Labor” by Elena Reitman, Pamela Flood, Steven Shafer, and Richard Smiley, Columbia University, New York, New York. Progress of labor and time course of pain during labor vary considerably among individuals, possibly reflecting, in part, genetic differences. Using a recently developed mathematical approach to model labor progress and pain during labor, 150 women were genotyped for the β_2 -adrenoceptor and μ -opioid receptor genes and prospectively studied during labor. The β_2 -adrenoceptor genotype at position 27 was associated with later transition to active labor and the homozygous (GG) genotype at position 118 of the μ opioid receptor was associated with more rapid development of pain during labor. [A787]

“Exposure to Anesthesia and Risk of Developmental and Behavioral Disorders in a Twin Cohort” by Charles DiMaggio, Lena S. Sun, and Guohua Li, Department of Epidemiology, Columbia University Mailman School of Public Health, New York, New York, and Department of Anesthesiology, Columbia University College of Physicians and Surgeons, New York, New York. A growing body of evidence indicates that early exposure to anesthetic agents may increase the risk of developmental or behavioral disorders in children. A retrospective analysis of the occurrence of developmental delay was conducted in 5,824 pairs of twins, and the relationship to anesthetic exposure under 3 yr of age was determined. After adjusting for birth complications, gender, and medical utilization, there was a more than 2-fold increased risk of developmental delay in anesthetic-exposed compared to -unexposed children. [A786]

“Hydrogen Sulfide Deficiency Protects from Sepsis-Induced Mortality” by Jochen Steppan, Gautam Sikka, Asif K. Mustafa, Solomon H. Snyder, and Dan E. Berkowitz, Anesthesiology and Critical Care Medicine, Johns Hopkins Medical Institutions, Baltimore, Maryland, and Neuroscience, Johns Hopkins Medical Institutions, Baltimore, Maryland. Hydrogen sulfide (HS) is a gas produced by the enzyme cystathionine lyase (CSE) that may play a deleterious role during sepsis by promoting vasodilation, increasing endothelial permeability, and decreasing survival. Using a genetic deletion model, survival, mesenteric artery responses to phenylephrine, and endothelial barrier function were tested in wild type or CSE^{-/-} mice during sepsis after either cecal puncture or treatment with LPS. Survival was increased, vasodilatory responses were decreased, and endothelial permeability was attenuated in mice lacking CSE during sepsis. The results suggest that HS generated by CSE may represent a novel therapeutic target for inhibition during sepsis. [A779]

“Chronic Perioperative β -Blockade Is Superior to Acute Postoperative β -Blockade” by Christoph Ellenberger, Gordon Tait, Nicholas Mitsakakis, and Scott Beattie, Anesthesia and Pain Management, Toronto General Hospital, Toronto, Ontario, Canada. The effectiveness of β -blocker therapy for risk reduction during noncardiac surgery is contro-

versial. Propensity score matching was used in 5,455 consecutive patients to match 202 pairs of patients undergoing noncardiac surgery who were receiving chronic preoperative β -blockers or who received these drugs acutely within 24 h of surgery. The composite outcome of major adverse cardiac events (relative risk 2.8) and myocardial infarction (relative risk 3.5) were significantly increased in patients (55% were at moderate to high risk for cardiac morbidity) receiving acute as compared with chronic β -blockers. The results suggest that timing and chronicity of β -blocker therapy might modulate the efficacy of risk reduction. [A781]

“Perioperative Atenolol Is Associated with Reduced Mortality When Compared with Metoprolol” by Arthur W. Wallace, Selwyn Au, and Brian A. Cason, Anesthesiology and Perioperative Care, University of California San Francisco, San Francisco, California, and Anesthesiology Service, Veterans Affairs Medical Center, San Francisco, California. It has been suggested that the efficacy of β -blocker therapy for risk reduction in patients undergoing high risk surgery might be drug specific. Early and late mortality rates were compared in more than 5,000 patients undergoing either vascular or cardiac surgery and who received β -blocker therapy with either oral atenolol or metoprolol. Logistic regression analysis was used to correct for multiple confounding factors, and reduction in 30 day or 1 yr mortality rates (OR 0.5) favored atenolol as compared with metoprolol. The results suggest that the recent controversy concerning the efficacy of β -blockers in clinical trials may, in part, be related to the choice of drug. [A782]

“Sepsis-induced Modulation of Ion Channels and the Role of Protein Nitrosylation in Atrial Myocytes” by Yuta Aoki, Noboru Hatakeyama, Hiroyuki Kinoshita, Naoyuki Matsuda, and Mitsuaki Yamazaki, Toyama University, Wakayama Medical University, and Nagoya University, Japan. The etiology of tachyarrhythmias during sepsis is unclear. Using a guinea pig model of sepsis (LPS), the role of protein nitrosylation *via* iNOS activation and subsequent changes in ion channels were investigated as potential responsible mechanisms. The expression of calcium channel subunits in atrial myocardium and calcium currents were decreased during sepsis, whereas potassium channel subunit expression was increased. These changes occurred concomitantly with increased atrial nitrotyrosine and were blocked by treatment with the nonspecific nitric oxide synthase inhibitor L-NAME. The results suggest that sepsis-induced increases in nitric oxide may produce changes in expression and regulation of ion channels in atrial myocytes, leading to changes in action potential shortening. [A780]

“Cervical Cord, Root, and Spine Injury: A Closed Claims Analysis” by Bradley J. Hindman, Karen L. Posner, Michael M. Todd, Lorri A. Lee, and Karen B. Domino, University of Iowa, Iowa City, Iowa and University of Washington, Seattle, Washington. Cervical spine instability is considered a risk factor for spinal cord injury during airway management, but there are only a few case reports or data identifying clinical risk factors. This analysis of closed claims involving general anesthesia from the Closed Claims Database from

1970–2007 identified 48 cervical spine injury claims, which accounted for fewer than 1% of 5231 total general anesthesia claims. Most cervical cord injuries occurred in the absence of traumatic injury, cervical instability, or airway difficulty, but were commonly associated with anatomic abnormalities (95%) such as cervical spondylosis/stenosis and/or disc disease. [A778]

“Randomized Comparison of 20% Mannitol and 7.5% Hypertonic Saline for Supratentorial Craniotomy” by Miguel F. Arango, Rosemary A. Craen, and Matthew T. Chan, Department of Anesthesia and Perioperative Medicine, University of Western Ontario, London, Ontario, Canada, and Department of Anaesthesia and Intensive Care, The Chinese University of Hong Kong, Prince of Wales Hospital, Hong Kong Special Administrative Region, Shatin, Hong Kong SAR, Hong Kong. Both hypertonic saline (7.5% NaCl) and mannitol (20%) are effective in reducing brain bulk during craniotomy. This randomized blinded trial compared these two treatments at equiosmolar doses in 160 subjects undergoing supratentorial craniotomy. The incidence of brain swelling and increased intracranial pressure were both significantly lower in the hypertonic saline group, which also had better operating conditions and less diuresis. [A784]

“Anesthetic Induction and Emergence Are Characterized by Independent Neural Network Properties” by UnCheol Lee, Muller Markus, GyuJung Noh, and George Mashour, Department of Anesthesiology, University of Michigan Medical School, Ann Arbor, Michigan; Department of Anesthesiology and Pain Medicine, Asan Medical Center, University of Ulsan College of Medicine, Seoul, Republic of Korea; and Facultad de Ciencias, Universidad Autonoma del Estado de Morelos, Cuernavaca, Mexico.

The neural mechanisms governing general anesthesia induction and emergence are poorly understood. Neural network properties were measured using electroencephalography in 20 male volunteers during induction of and emergence from propofol anesthesia. Optimal network structure was globally disrupted at loss of consciousness with gradual recovery before emergence. In contrast, network connection strength did not change at loss of consciousness, but precipitously increased at return of consciousness. These distinct electrophysiological correlates support distinct neurobiological mechanisms underlying induction and emergence of anesthesia. [A783]

“Returning from Oblivion: Brain Activity Correlated with Consciousness Following Anesthesia” by Jaakko W. Långsjö, Kimmo Kaskinoro, Sargo Aalto, Michael T. Alkire, and Harry Scheinin, Turku PET Centre, University of Turku, Finland, and University of California-Irvine. Previous neuroimaging studies have focused on changes associated with loss of consciousness following anesthesia rather than return of consciousness following anesthesia. Positron emission tomography (PET) scanning of cerebral blood flow as an index of brain activity was used to investigate the effects of propofol and dexmedetomidine in 20 male volunteers. Return of consciousness for each drug was associated with a significant increase in anterior cingulate cortex activity, a region proposed to play a critical role in consciousness. [A785]



3rd Annual ANESTHESIOLOGY/FAER Session: Debunking Myths of Transfusion

Tuesday, October 19, 1:00 PM to 4:00 PM, Upper 28E, San Diego Convention Center, San Diego, California.

The safety and efficacy of perioperative blood product transfusion have become of prime importance with recent guidelines for coagulation testing and transfusion in the perioperative environment, and the controversial effect of “aged” red cell transfusion as an association and perhaps cause of adverse outcomes. The transformation of the perception of risks of blood transfusion from infectious to noninfectious etiologies is emphasized in the presentations and abstracts that will be presented at this year’s ANESTHESIOLOGY/FAER session.

Several presentations illustrate the role and perhaps the etiology of increased risk of several cardiac and noncardiac outcomes after “aged” blood, first illustrated in depth, in cardiac patients, by Colleen Koch, M.D., of The Cleveland Clinic. Her research has spurred two large multicenter clinical trials and a renewed interest in the mechanism of transfusion-associated organ injury. Elliott Bennett-Guerrero, M.D., from the Duke Clinical Research Institute, Duke University, one of the leaders of these trials, will discuss the role of “new” *versus* “aged” blood on postoperative outcomes.

In an almost antithetical relationship, several moderate-size observational studies, predominantly originating from the U.S. military experience with trauma in recent wars, have found improved outcomes in patients treated with large doses of fresh frozen plasma. However, there are also studies in which no benefit of a high FFP:RBC on survival was found. John Holcomb, M.D., Director of the Center for Translational Injury Research at the University of Texas Health Science Center at Houston, will be presenting a summary and the implications of this work. Dr. Holcomb was head of the Army Institute of Surgical Research, Brooke Army Medical Center, and was lead author on many of these observational studies.

Donat R. Spahn, M.D., F.R.C.A., University Hospital, Zürich, will describe outcomes after transfusion: in extreme hemorrhage following trauma, where red cell transfusion can be life saving, and in most other situations in which red cell transfusion is consistently associated with major adverse clinical

outcomes, such as increased mortality, ischemic morbidity, infections, lung injury, length of hospital stay and costs.

“Aged *versus* Fresh Blood for Hemorrhagic Shock; Effect on Liver Outcome and Possible Mechanisms” by **Idit Matot and Rinjat Abramovitch from the Tel Aviv Sourasky Medical Center, Israel.** The author examined hepatic injury with fresh *versus* 4-day-old or 7-day-old blood upon liver injury assessed with functional MRI in a rat hemorrhage model, observing that transfusion of older blood was associated with worse liver injury. [A1338]

“Does Thromboelastograph (TEG®) Help Reduce Blood/Blood Component Therapy in Adult Cardiac Surgery?” by **Ajeet Sharma, Antoine Al-Achi, Nichole Michaud, and John Seccombe, St. Vincent Hospital, Green Bay, Wisconsin.** The authors conducted a study of the role of the TEG-guided transfusion using a standardized protocol, compared with blood transfusion data from the Society of Thoracic Surgeon’s database, observing reduced rates of red cell and platelet transfusion. [A1339]

“STS Database Evaluation [06 *versus* 09] for Blood/Blood Component Use During Adult Cardiac Surgery?” by **Ajeet Sharma, Antoine Al-Achi, Richard Hummel, and John Seccombe, St. Vincent Hospital, Green Bay, Wisconsin.** The authors retrospectively examined the Society of Thoracic Surgeon’s database to examine the effect of aprotinin withdrawal from the market in the US upon blood transfusion utilization. They observed 3–10% increases in blood/blood component transfusion in patients undergoing cardiac surgical procedures at high risk for transfusion. [A1340]

“The Pharmacodynamic/Pharmacokinetic Profile of Tranexamic Acid in Pediatric Craniofacial Surgery” by **Susan Goobie, Petra Meier, Luis Pereira, Navil Sethna, and Francis McGowan, Children’s Hospital, Boston.** In a double-blinded randomized trial of tranexamic acid in children undergoing craniofacial reconstruction surgery at high risk of blood transfusion, the authors examined the pharmacokinetic profile of tranexamic acid. [A1341]

“POC Coagulation Management Reduces the Incidence of Blood Transfusion in Cardiovascular Surgery” by **Klaus Görlinger, Daniel Dirkmann, Lars Bergmann, Markus Kamler, and Matthias Hartmann, University Hospital, Essen, Germany.** The authors developed an algorithm for point-of-care (POC) coagulation management in cardiovascular surgery based on thromboelastometry (ROTEM®), impedance aggregometry (Multiplate®) and goal-directed therapy with coagulation factor concentrates such as fibrinogen and prothombin complex concentrate, and documented a significant reduction in allogeneic blood product use between 2004 and 2009. [A1342]

“The Active Management of Coagulation Decreases Transfusion and Coagulopathy during Spinal Fusion” by **Carine Zeeni, Louanne Carabini, Robert Gould, John Bebawy, and Dhanesh Gupta, Feinberg School of Medicine, Northwestern University, Chicago, Illinois.** The authors developed a transfusion protocol aiming at adequate

oxygen delivery (hemoglobin more than 8–10 g/dl, base excess, lactate) and coagulation (platelets more than 100 K, INR < 2.0, fibrinogen > 150 mg/dl) and found that fewer erythrocyte and fresh frozen plasma transfusions were given and higher perioperative fibrinogen levels were achieved. [A1343]

“Delaying Blood Transfusion in Experimental Acute Extreme Anemia with a Perfluorocarbon Emulsion” by **Pedro Cabrales and Juan Briceno, Department of Bioengineering, University of California, San Diego, La Jolla, California, and Department of Mechanical Engineering, University of Los Andes, Bogota, Colombia.** The authors showed that hamsters extremely hemodiluted to hematocrit levels of 11% and 6% had stable macro- and micro-circulatory situations when treated with perfluorocarbon-based oxygen carrier and hyperoxia. [A1344]

“Morbidity and Mortality after Massive Transfusion in Patients Undergoing Noncardiac Surgery” by **Alparslan Turan, Angela Bonilla, Dongsheng Yang, Leif Sageer, and Andrea Kurz, Department of Outcomes Research, The Cleveland Clinic, Cleveland, Ohio.** The authors showed that in 5,111 massive-transfusion patients (more than 5 units of erythrocytes transfused) of whom 1,118 expired (22%) within 30 days postoperatively, 55% had at least one nonfatal major complication, mainly respiratory and infectious complications. [A1345]

“Blood Product Administration Is Associated with Postoperative Infections in Esophagectomy Patients” by **Arun Subramanian, Elie Berbari, Mark Allen, Anas Alsara, and Daryl Kor, Mayo Clinic, Rochester, Minnesota.** The authors showed in 471 patients undergoing esophageal resection surgery that blood product administration such as erythrocyte, FFP, or platelet transfusions was associated with postoperative surgical site and bloodstream infections and pneumonia. [A1346]

8th Annual Celebration of Research

Monday, October 18, 2010, 12:30 PM to 2:00 PM, San Diego Convention Center, San Diego, California. Lunch will be provided!

This year’s Celebration of Research will take place on Monday during the Annual Meeting. James C. Eisenach, M.D., Editor-in-Chief of ANESTHESIOLOGY, will serve as moderator. Featured speakers will be the 2010 recipient of the ASA Excellence in Research Award, J.A. Jeevendra Martyn, M.D., F.R.C.A., Professor, Department of Anesthesiology and Critical Care, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts; and the recipient of the 2010 Presidential Scholar Award, Max B. Kelz, M.D., Ph.D., Assistant Professor, Department of Anesthesiology and Critical Care, University of Pennsylvania, Philadelphia, Pennsylvania. The recipients of the 2010 Residents’ Research Awards will also be introduced during the Celebration event. Additional information regarding Journal-related activities and FAER-related activities will be included in the Celebration of Research booklet distributed at the 2010 Annual Meeting.