REPORTS OF SCIENTIFIC MEETINGS

David E. Longnecker, M.D., Editor

Society of Cardiovascular Anesthesiologists Sixth Annual Meeting, Boston, Massachusetts

The Sixth Annual Meeting of the Society of Cardiovascular Anesthesiologists was held on May 6–9, 1984, at the Westin Copley Place in Boston, Massachusetts. Highlights of the meeting included panel discussions on Economics and the Practice of Cardiac Anesthesia, Aging and the Cardiovascular System, Deep Hypothermic Circulatory Arrest, Myocardial Metabolism, Defibrillators, Cardiopulmonary Resuscitation, and Calcium Channel Blockers, original papers, case presentations, poster sessions, and literature reviews. The Janssen Annual Lecture was given by Dr. John Kirklin of the University of Alabama, who discussed the myriad of support systems necessary for intracardiac surgery.

Drs. M. Roizen and E. Lakatta discussed the influence of advancing age on the cardiovascular system and anesthetic management. Surprisingly, age *per se* has little effect on the cardiovascular system. When marked declines in cardiac output are observed in elderly subjects, causes other than age, such as occult coronary disease or physical deconditioning, must be considered seriously.

During the panel on Calcium Entry Blockers, Drs. J. Reves, P. Kapur, R. Kates, and D. Torpey stated that calcium blockers have been found to be superior to nitrates and beta blockers in the treatment of unstable angina. Potential anesthetic interactions with these drugs include the following: hypotension associated with halothane; potentiation of muscle relaxants; increased organ blood flow; preservation of renal, cerebral, and myocardial perfusion during hypotension; increased shunt fraction during anesthesia; and increased cerebral pressure and decreased perfusion in patients with intracranial lesions.

Dr. R. Merin and the panel on Myocardial Metabolism focused on the methods by which myocardial function might be improved. They discussed ways to moderate the effects of myocardial ischemia by changing the type of myocardial energy source. Dr. Wolfram Haider (University of Vienna, Austria) advocated insulin–glucose loading prior to global ischemia as a method to enhance postperfusion return of function. Dr. Hans Sonntag (University of Göttingen, West Germany) reviewed the effects of anesthetic agents on myocardial metabolism and concluded that no anesthetic agents produced any specific effect on myocardial metabolism either in normal humans or in patients with coronary artery disease.

Two resident research awards were presented. The first award went to Dr. J. S. Smith of the University of California, San Francisco, "Detection of Intraoperative Myocardial Ischemia in High Risk Patients: ECG *versus* 2-D Transesophageal Echocardiography," which concluded that the segmental wall motion abnormalities as detected by two-dimensional transesophageal echocardiography were more sensitive than ECG for the detection of intraoperative myocardial ischemia. A second resident research award was presented to Dr. S. Metz of the Brigham and Women's Hospital and the Harvard Medical School, Boston, for "A Controlled Comparison of Techniques for Internal Jugular Vein Cannulation Using Ultrasonography."

Numerous informative scientific papers and posters were presented. Dr. G. Roach confirmed the hypotensive effect of diazepam combined with fentanyl but, more importantly, demonstrated the safety and stability of the combination of fentanyl with nifedipine. Several other investigators demonstrated the stability of patients receiving both beta and calcium entry blockers during induction of anesthesia. Dr. M. Howie and Dr. N. de Bruijn (University of Leiden, The Netherlands) commented on the pharmacokinetics of fentanyl, alfentanil, and sufentanil in separate studies. Dr. P. Augereau presented a poster showing that cimetidine did not alter the pharmacokinetics of fentanyl.

Drs. R. Ralley, J. Ramsay, and L. Abrams discussed the inadequacy of nasopharyngeal and esophageal temperatures as measures of rewarming following hypothermic cardiopulmonary bypass. They also discussed the efficacy of humidified gases in maintaining or enhancing temperature following cardiopulmonary bypass and the effect of postbypass hypothermia on postoperative shivering and hemodynamic instability. Drs. J. Kaplan and R. Sladen, in separate papers, noted that postoperative shivering decreased mixed venous oxygen saturation and decreased hemodynamic stability. Dr. Kaplan advocated narcotics and/or relaxants, while Dr. Sladen used relaxants to allow adequate mechanical ventilation and to reduce oxygen consumption.

Dr. C. Buffington, in an elegant study, finally laid to rest the much maligned rate–pressure product. Although heart rate and pressure are important determinants of myocardial oxygen consumption, there are other important factors, and the product of rate and pressure alone may be misleading.

Dr. B. Mindisch demonstrated the ability of two-dimensional contrast echocardiography to monitor the delivery of cardioplegic solutions. Dr. W. Johnston and Dr. S. Heard presented posters that confirmed the ability of a sterilely placed pulmonary artery catheter shield to maintain sterility against multiple catheter manipulation for at least 2 days.

The Seventh Annual Meeting of the Society of Cardiovascular Anesthesiologists will be held on April 28 to May 1, 1985, in Phoenix, Arizona.

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The National Institutes of Health Consensus Development Conference On Fresh Frozen Plasma: Indications and Risks

On September 24–26, 1984, the National Heart, Lung and Blood Institute of the Center for Drugs and Biologics of the

U. S. Food and Drug Administration and the Office of Medical Applications of Research convened a "Consensus Development Conference on Fresh Frozen Plasma: Indications and Risks." Fresh frozen plasma (FFP) is defined as the fluid portion of 1 unit of human blood that has been centrifuged, separated, and frozen solid at −18° C (or colder) within 6 h of collection. Because the use of FFP has increased tenfold within the last 5 years, the Consensus Development Conference was arranged to resolve questions surrounding its steadily increasing use.

The panel was chaired by Dr. James L. Tullis, Professor Emeritus from Harvard University Medical School in Boston, and included Dr. Barbara Alving of the Walter Reed Army Medical Center in Washington, D. C., Dr. Joseph Bove, Director of the Blood Bank at Yale University in New Haven, Dr. Charles Carmen of Ohio, Chairman of the Board of Directors of the National Hemophilia Foundation, Dr. Ralph D'Agostino, Professor of Statistics at Boston University, Dr. Jessica Lewis of the University of Pittsburgh and Vice President of the Central Blood Bank of Pittsburgh, Dr. Doris Menache of Bethesda, from the Blood Research Laboratory of the American National Red Cross, Dr. William Monafo, Jr., Director of the Barnes Hospital Burn Center at the Washington University School of Medicine in St. Louis, Dr. Bruce Reitz, Cardiac Surgeon-in-Charge at Johns Hopkins University School of Medicine, Dr. George Scannell, Clinical Professor of Surgery at the Massachusetts General Hospital, Rev. Sydney Wilde-Nugent, Associate Minister of the Cedar Lane Unitarian Church in Bethesda, and Dr. Ronald Miller, Professor and Chairman of Anesthesia at the University of California, San Francisco Medical Center.

The panel concluded that the administration of FFP has increased dramatically in recent years, despite the absence of clear and definitive indications for its use. This increase has occurred despite mounting evidence of the potential risks of FFP, which include viral hepatitis and possibly acquired immunodeficiency syndrome (AIDS). The panel concluded that most patients who receive FFP can be managed more effectively and safely with alternative therapies. Although there are many rare coagulopathies in which FFP may be indicated, in the surgical arena FFP is rarely indicated. For example, there appears to be increased use of FFP in massive blood transfusions despite the absence of evidence for its efficacy, possibly due to the relative unavailability of whole blood. The practice of many blood banks is to provide little whole blood, and often packed red blood cells only are available for blood replacement. However, after listening to 1½ days of presentations, the panel concluded that a coagulopathy in a massively transfused patient is caused more frequently by thrombocytopenia than by depletion of coagulation factors. Therefore, the empiric use of FFP to reverse hemostatic disorders should be confined to those patients in whom factor deficiencies are presumed to be the sole or principal derangement. However, the evidence supporting the conclusion that factor deficiencies occur frequently in massively transfused patients is absent. There is absolutely no evidence that prophylactic administration of FFP decreases transfusion requirements in the multiply transfused patient who does not have documented coagulation defects.

Many presentations considered whether crystalloid or colloid should be used for fluid replacement in the surgical arena. The panel concluded that in most cases colloid was not indicated. However, even if colloid is given, FFP probably is contraindicated, because there are safer colloids, such as 5% albumin and various starch preparations, that do not transmit disease.

The risks of FFP include disease transmission, anaphylactoid reactions, and alloimmunization. The potential for viral hepatitis, which is usually non-A, non-B, is similar to that of whole blood and packed red blood cells and probably ranges from 3 to 10% if both icteric and nonicteric hepatitis are included. In rare incidences, AIDS probably can be transmitted by blood transfusions and possibly FFP.

Although the panel found little justification for the striking increase in the use of FFP, several avenues were recommended. First, the panel felt that it was unjustified to insist on the use of packed red blood cells in the treatment of the massively transfused patient. They recommended that blood banks make available whole blood for those patients who have lost more than 2–3 units of blood. Secondly, the panel felt that many clinicians were unaware of the risks associated with FFP, and therefore the panel promoted various educational endeavors to correct this problem. Lastly, the panel recommended that an important alternative use of FFP is a comprehensive program of blood conservation, including autologous donations before elective surgery, infusion of shed blood, and the recognition that normovolemic anemia frequently is not an indication for transfusion, *per se.*

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