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Hospitals Encouraged to Participate in POCA Registry

Jeffrey Morray, M.D.

The Pediatric Perioperative Cardiac Arrest (POCA) Registry was formed in 1994 under the combined auspices of the ASA Committee on Professional Liability and the American Academy of Pediatrics Section on Anesthesiology. The POCA Registry was designed as a follow-up to the pediatric component of the ASA Closed Claims Project, which is a structured evaluation of malpractice claims filed against anesthesiologists. The Registry provides an in-depth examination of cardiac arrests in anesthetized children, which hopefully will improve the understanding of the underlying mechanisms and will identify strategies for prevention.

All cardiac arrests, defined as the need for cardiopulmonary resuscitation, during induction or maintenance of anesthesia or in the postanesthesia care unit in children 18 years of age or younger, are eligible for inclusion. For each case that qualifies, participating institutions are asked to fill out and submit a standardized data form to the data bank maintained by the University of Washington Department of Anesthesiology as a component of the Closed Claims Project. Anonymity is maintained so that no patient, physician or submitting institution can be identified.

From 1994 through 1997, 63 institutions enrolled in the Registry and submitted 289 cases of cardiac arrest. The incidence of cardiac arrest was 2.7 per 10,000 anesthetics. Infants less than 1 year of age accounted for 59 percent of all arrests. Cardiovascular causes or presumed causes were responsible for arrest in 65 percent of cases, while respiratory causes accounted for only 10 percent of arrests. The overall mortality rate was 48 percent. The predominance of cardiovascular events compared to respiratory events in the POCA registry may have some relationship to the frequent use of pulse oximetry and capnometry (98 percent and 86 percent, respectively). ASA Physical Status 3-5 was the strongest predictor of mortality, although patient age <1 month and emergency status were also predictive.

ASA Physical Status 1 and 2 patients accounted for 20 percent of all cases. Problems with drug administration (i.e., relative anesthetic overdose, wrong dose, wrong drug and allergic reaction) occurred five times more often than in ASA Physical Status 3-5 patients. The impact of anesthesia was described by the institutional reviewers as a major or total cause of cardiac arrest in 77 percent of ASA Physical Status 1 and 2 patients, compared to only 27 percent of ASA Physical Status 3-5 patients. Outcome was better in ASA Physical Status 1 and 2 patients, with 6 percent mortality, compared to 55 percent mortality in ASA Physical Status 3-5 patients.

The POCA Registry Director is Jeffrey Morray, M.D. Other members of the Registry Steering Committee include Jeremy M. Geiduschek, M.D., Alvin Hackel, M.D., Chandra Ramamoorthy, M.D., Frederick W. Cheney, M.D., Robert A. Caplan, M.D., Karen Posner, Ph.D., and Karen B. Domino, M.D.

The Steering Committee would like to increase the size of the Registry as well as the participation of community-based hospitals. All university-affiliated and community-based anesthesiology departments that care for children and would like to participate in the Registry are encouraged to do so. All necessary information can be obtained by contacting the POCA Registry:

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