

Anesthesiology
66:93, 1987

First Wartime Use of Surgical Anesthesia

To the Editor:—We would like to thank Dr. Tverskoy for his information concerning the use of ether anesthesia by Russian surgeon Pirogoff in July, 1847, during the Caucasus War.¹ Pirogoff's career has recently been explored in some detail by Secher.²

We would also like to clarify that the intent of our article³ was to precisely establish the first wartime use of surgical anesthesia. That initial use was made by American physicians beginning in March, 1847, during the Mexican-American War. That a Russian surgeon made similar, extensive use of anesthesia within months of its appearance on the battlefields in Mexico is further testimony to the speed with which the application of anesthesia to surgery spread around the world in the months following Morton's October, 1846, demonstration.

J. ANTONIO ALDRETE, M.D., M.S.
Professor of Anesthesiology

Anesthesiology
66:93-94, 1987

Venous Air Embolism and Cesarean Sections

To the Editor:—Dr. Younker and his colleagues are to be complimented for the management of venous air embolism (VAE) during the course of a Cesarean section.¹ Again, it must be emphasized that VAE is not restricted to neurosurgical procedures being performed on patients in the sitting position.² VAE can occur with a gravitational gradient as small as 2.5 cm *via* an organ or organ system rich in draining veins or venous sinuses.³ A number of reports concerning VAE in obstetrics appeared in the French medical literature in the early half of the 19th century.⁴ Our concern with the recent paper by Younker *et al.* is their statement that the precordial Doppler air bubble detector "be reasonably restricted to cases at risk." This means that the largest group of patients undergoing cesarean sections would not be monitored for VAE, since more than half of the cesarean sections in North America were performed under regional anesthesia.^{5*} Under these conditions, where the iatrogenic relative hypovolemia may not always be completely corrected, and since a lower mean intrathoracic pressure is seen under spontaneous ventilation when compared to the controlled mode, the likelihood of venous air entrainment is enhanced.

The authors¹ describe the ability of the Doppler to

give warning of minor embolic phenomena before they become serious, and, although there may be a correlation between hemodynamically significant air emboli and their detection by end-tidal capnography, why should one wait until the VAE is significant before treatment is started? While the Doppler may be unable to differentiate between VAE and thromboembolism once cardiovascular collapse has occurred, it would appear to be more logical to detect the VAE before collapse occurs to begin correct therapy.

We feel that, in patients undergoing cesarean sections under regional anesthesia, the VAE monitor of choice is the precordial Doppler. We would also suggest that preoperative placement of a multi-orificed air aspiration catheter is indicated in those cases where significant risk of VAE can be identified.⁵ These wire-guided catheters⁶ are easy to insert from the antecubital fossa, and allow for the immediate, rapid aspiration of air when the Doppler air bubble detector is activated.

DAVID A. ROBINSON, F.F.A.R.C.S.
Visiting Assistant Professor of Obstetric Anesthesiology

MAURICE S. ALBIN, M.D., M.Sc. (ANES.)
Professor of Anesthesiology and Neurosurgery

*Department of Anesthesiology
University of Texas
Health Science Center
San Antonio, Texas 78284-7838*

* Gibbs CP, Krischer J, Peckham BM *et al*: Obstetric Anesthesia: A national survey. Proceedings of Annual Meeting of Society of Obstetric Anesthesia and Perinatology, May, 1986

A. J. WRIGHT, M.L.S.
Clinical Librarian

*Department of Anesthesiology
University of Alabama at Birmingham
Birmingham, Alabama 35233*

REFERENCES

1. Tverskoy M: From the history of anesthesia in military surgery. *ANESTHESIOLOGY* 64:661, 1986
2. Secher O. Nikolai Ivanovich Pirogoff. *Anaesthesia* 41:829-837, 1986
3. Aldrete JA, Marron GM, Wright AJ: The first administration of anesthesia in military surgery: On occasion of the Mexican-American War. *ANESTHESIOLOGY* 61:585-588, 1986

(Accepted for publication September 11, 1986.)