Antacid Therapy in Obstetrics

To the Editor: — The recently increasing number of publications on methods of elevating intra-gastric $pH$ preoperatively is producing considerable confusion within the anesthetic community and diverting attention from the anesthesiologist's primary goal in this respect, that of preventing any soiling of the tracheobronchial tree, whether by acid or antacid.

One investigator finds oral administration of cimetidine 90 min before anesthesia valuable prophylaxis: another finds the group treated by this procedure "not significantly different from the control group."

Conflicting reports of possible harm from antacid aspiration cause further uncertainty among obstetrical anesthesiologists, for whom the use of cimetidine for prophylaxis is bedevilled by timing problems and also the lack of proof of its innocuousness to the fetus or newborn. While we strongly support recommendations that safer antacid preparations be developed, we are deeply concerned that some may elect to cease attempts to neutralize the gastric juice in parturients.

A recent case brought to our attention has led us to reconsider the significance of one of our experiments with Rhesus monkeys, performed in 1974. In this case, which cannot be reported fully because of continuing litigation, a young woman anesthetized without endotracheal intubation aspirated during surgery. The volume aspirated was not massive, yet produced sudden cardiac arrest. The heart was restarted without difficulty, but unfortunately there were neurologic sequelae. The $pH$ of the aspirate is unknown.

In the Rhesus monkey study, a tracheostomy tube was inserted into the left lung and 0.4 ml/kg of gastric juice neutralized with THAM to $pH$ 7.45 was injected down the tube. Tachypnea and a slight increase in blood pressure occurred. After half an hour, during which the animal's condition had stabilized and the arterial blood $P_aO_2$ returned to base levels (50–60 torr), the experiment was repeated, but this time 0.4 ml/kg of acidified gastric juice ($pH$ 1.26) was injected into the opposite lung. Changes in blood pressure, respiratory rate, and pulse rate this time were dramatic, and within 3 min, led to cardiorespiratory arrest accompanied by blood-stained frothy material in the tracheal tube. The arrest was easily reversed by closed-chest compression and artificial ventilation. The similarity between the findings in this study and those in the patient described above is striking.

We are left with the question: Can the aspiration of highly acidic material cause sudden pulmonary edema with spasm and hypoxia sufficient to cause prompt cardiac arrest? If so, dare we not neutralize gastric contents, even at the risk of some pulmonary damage, while the search for a more ideal solution continues? The final answer will probably be difficult to document though easy to define—has this new awareness of the risks of aspiration over the past five years resulted in a decreased overall mortality?

R. Bryan Roberts, M.D.
Professor and Chairman
Department of Anesthesiology
Wright State University
School of Medicine
Dayton, Ohio 45431

Michael A. Shirley, M.D.
Pittsfield, Massachusetts

References


(Accepted for publication February 1, 1980.)

Direct (Transthoracic) Endobronchial Intubation

To the Editor: — Traditionally, one-lung ventilation is accomplished by use of a long endotracheal tube, a bronchial blocker, or, most commonly, a double-lumen endobronchial tube.

Recently, a transthoracic endobronchial intubation was performed during a right thoracotomy and pneumonectomy for epidermoid carcinoma. This technique was chosen after attempts to pass either an endobronchial or a long endotracheal tube into the left mainstem bronchus were unsuccessful. Instead, the
surgical procedure was started with a single-lumen endotracheal tube. During the operation, the right mainstem bronchus was divided. This division included a small portion of the lateral tracheal wall at the origin of the right mainstem bronchus. The oral endotracheal tube was then withdrawn into the proximal trachea, and a sterile endotracheal tube was inserted through the surgical field, across the tracheal carina and into the left mainstem bronchus. This tube was connected to the anesthesia circuit for continued ventilation during the rest of the surgical procedure. After the right lung was resected, the transthoracic endobronchial tube was removed and ventilation resumed via the original endotracheal tube. The incision in the tracheal wall was then closed. The patient tolerated this procedure well, and the trachea was extubated 12 hours later. Arterial blood gases during breathing of 50 per cent oxygen during the period of endobronchial anesthesia remained adequate, with P_{\text{aO}_2} 116 torr and P_{\text{aCO}_2} 35 torr.

Jeffrey J. Stevens, M.D. Presbyterian Hospital Center 1100 Central SE Albuquerque, New Mexico 87102

(Accepted for publication February 5, 1980.)

Modified Laryngoscope for Endotracheal Intubation of Neonates

To the Editor: — Cork et al.\(^1\) and Wung et al.\(^2\) described the fitting of a feeding tube to the laryngoscope blade to provide oxygen flow and to prevent hypoxia during laryngoscopy and intubation of neonates. Wung et al.\(^2\) taped a feeding tube to the laryngoscope blade. Cork et al.\(^1\) experienced difficulties with this method, namely dislodging and problems with reapplying the tube within a short period of time; they threaded a feeding tube through two small holes drilled in the blade of the laryngoscope. The benefit of this technique was demonstrated by measuring transcutaneous P_{\text{aO}_2} values.\(^2\)

I had experienced similar difficulties using the technique of taping the feeding tube to the laryngoscope blade. We have succeeded in eliminating these problems by soldering a long, wide-bore aspirating needle to the Dräger neonatal laryngoscope (fig. 1). The advantages of this modification are that it provides increased stability and security and that it allows sterilization of the entire laryngoscope.

Peter Henicz, M.D. Intensive Care Unit Pediatric Department Medical University of Szeged 6701 Szeged Gyeheklinikai Korányi fasor 18 Pf. 471, Hungary

Fig. 1. Modification of the neonatal laryngoscope.

References


(Accepted for publication February 5, 1980.)