enough to raise a concern regarding the use of noninvasive methods to monitor ventilation.

We cannot answer precisely what happens in the alveoli during ventilation of patients undergoing intraabdominal CO₂ insufflation, but the results of our study strongly suggest a large and unpredictable difference between PaCO₂ and end-tidal CO₂ values; thereto our recommendation of monitoring PaCO₂ by direct methods.

Addressing the third point, despite the disadvantages of using animal models with regards to their applicability to humans, they help us to understand and to obtain vistas and ideas of the mechanisms of biological operation. Naturally, results from animal models must always be interpreted with caution in lieu of physiologic differences between species. Nonetheless, the sheep model has been used in obstetric research for decades and has been accepted by the scientific community. However, a well-conducted clinical investigation in humans is still necessary to support our results.

Antonio M. Cruz, D.V.M.
Lesley-Ann Crane, M.D.
Lucy C. Southerland, M.D.
Tanya Duke, D.V.M.
James G. Ferguson, D.V.M.
Department of Veterinary Anesthesiology, Radiology, and Surgery
Western College of Veterinary Medicine
University of Saskatchewan
52 Campus Drive
Saskatoon SK S7N 5B4
Canada

References


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Lidocaine to Topically Anesthetize the Mucosal Lining of the Airway

To the Editor—Four percent lidocaine is used to topically anesthetize the mucosal lining of the airway. In the process of spraying 4% lidocaine into the mouth and pharynx of approximately 100 very lightly sedated (1 mg intravenous versed, 50 μg intravenous fentanyl) adult volunteers for a research project, approximately 50% of the volunteers spontaneously, and with varying degrees of distress, complained of a bitter taste. In the next 75 volunteers (some of whom were repeat volunteers), the addition of one packet of an artificial sweetener (e.g., Sweet n' Low) to 20 ml of the 4% lidocaine resulted in a neutral to sweet taste that completely eliminated spontaneous complaints of bitterness and resulted in much better acceptance by the volunteers.

The addition of Sweet n' Low to 4% lidocaine will not cause any chemical reactions. Saccharin is an ingredient of viscous lidocaine (but not of liquid 4% lidocaine) and does not react with lidocaine (Dr. Phillip Anderson, Pharmacy Department, UCSD Medical Center, personnel communication). In addition, lidocaine does not react with potassium salts (hydrogen tartrate) or calcium salts (saccharin and silicate), which are the only other ingredients in Sweet n' Low. Along this line, I have not observed any suggestion of any precipitation in the mixture of Sweet n' Low and 4% lidocaine.

In summary, the simple safe sweet solution of adding Sweet n' Low to a sometimes troublesome 4% lidocaine bite problem may be of benefit to other practitioners and awake patients.
CORRESPONDENCE

Jonathan L. Benumof, M.D.
Professor of Anesthesia
Department of Anesthesia
University of California, San Diego
UCSD Medical Center
402 Dickinson Street (8812)
San Diego, California 92103-8812

A Potential Circuit Leak with Tec 5 Vaporizers

To the Editor: — I am writing to inform you of a possibly hazardous condition that can occur with Tec 5 vaporizers. I was performing an anesthetic of a patient induced and maintained on sevoflurane. During the procedure, a large leak suddenly developed in the anesthesia machine. Effective ventilation was not possible even when the manifold gas flow was increased from 2 l/min to 6 l/min. I quickly noticed that I had inadvertently opened the port valve lever by brushing against it when retrieving a piece of equipment from the top of the anesthesia machine. This was not immediately evident because the vaporizer was very low, and only a small quantity of liquid anesthetic dripped out.

The Tec 5 vaporizer’s filling–draining port valve is a simple lever (fig. 1). It is easy to brush against this lever in the course of an anesthetic and inadvertently open it. If the vaporizer is in circuit and full, it is easy to recognize an open port valve because liquid anesthetic will leak from the filler port. If the vaporizer is empty or nearly empty, however, the only indication may be a large gas leak that may or may not be audible, depending on the gas flow rate. This is an unlikely series of events, although it can happen, and I wanted to appraise our specialty of the possibility. If such a problem were to go unrecognized, hypoventilation is a hazard.

Noel Lee Chun, M.D.
Assistant Clinical Professor
Department of Anesthesia
UCLA Medical Center
A-231 JSEI
Los Angeles, California 90095-1778
nchun@apo.anes.ucla.edu

Fig. 1. (5) is the filling–draining port valve.

References


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