

CORRESPONDENCE

Reference

1. Hostetter TH, Brenner BM: Tubulointerstitial diseases of the kidney, Harrison's Principles of Internal Medicine, 13th ed. Edited

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by Isselbacher KJ, Braunwald E, Wilson JD, Martin JB, Fauci AS, Kasper DL. New York, McGraw-Hill Inc., 1994, pp 1314-9

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The Practice of Using Sevoflurane Inhalation Induction for Emergency Cesarean Section and a Parturient with No Intravenous Access

To the Editor:—Schaut *et al.*¹ described a successful mask inhalation induction for emergency cesarean section in a patient without intravenous access. The authors acknowledged the limitations associated with two other anesthetic options for this challenging scenario: local infiltration by the obstetrician and intramuscular rapid sequence induction. A third alternative in this situation is an awake intubation under topical anesthesia followed by inhalation induction. Although this method requires some time and patient cooperation, securing the airway before induction of anesthesia affords an element of safety lacking in a mask inhalation induction.² Less optimal, alternative approaches include a single shot spinal anesthetic (in the case of a prolapsed umbilical cord, performed with the patient in the lateral decubitus position) with simultaneous intramuscular ephedrine, or perseverance in securing peripheral or central venous access before induction. Although all of the previously mentioned approaches have significant limitations, one should at least acknowledge that a variety of options exist.

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To the Editor:—We read with interest the case report by Dr Schaut *et al.*, on sevoflurane inhalational induction for emergency cesarean section in a parturient with no intravenous access (ANESTHESIOLOGY 1997; 86:1392-4). The authors did not address two important concerns in their case report: implications of commencement of surgery in absence of intravenous access, and medical-legal issues.

Cesarean section is not a benign procedure and can be associated with life-threatening complications such as uterine atony hemorrhage, hypotension, amniotic fluid embolism, air embolism, disseminated intravascular coagulation, uterine tears, and so on. These could lead to disastrous consequences in absence of an intravenous access. Baby delivery before intravenous access, therefore, may impose additional risks to risks already associated with mask anesthesia. Although the relative incidence of each of these complications is low, the combined risk of mask anesthesia

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References

1. Schaut DJ, Khona R, Gross JB: Sevoflurane inhalation induction for emergency cesarean section in a parturient with no intravenous access. ANESTHESIOLOGY 1997; 86:1392-4
2. Cooper SD, Benumof JL, Reisner LS: The difficult airway: Risk, prophylaxis, and management, Obstetric Anesthesia Principles and Practice, 1st Edition. St. Louis, Mosby Yearbook, 1994, pp 577-605

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and surgery without an intravenous access should not be disregarded. This raises an important question of whether the obstetricians were justified to put intense pressure on the anesthesiologists as described by authors. There appeared to be no time to discuss the additional risks involved with a technique deviating from standard of care with the patient or the husband.

During cesarean section, the risk-to-benefit ratio implies risk to the mother *versus* benefit to the baby. The primary responsibility of the anesthesiologist and the obstetrician is directed toward the safety of the mother. We congratulate the authors for producing a successful outcome. One favorable outcome, however, does not imply that the anesthetic approach is justified, safe, or advisable. If this mother had suffered some sort of catastrophe resulting from lack of intravenous access, it would be hard to defend the technique as performed here. Publication of this case report should not imply advocacy of this technique in similar circumstances, nor

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set a precedent. Two dictums are relevant here. First, do not allow a fetal disaster deteriorate into a maternal disaster. Second, it is always preferable to give a dead baby to a living mother than to give a dead mother to a living husband.

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To the Editor:—Although I read with interest the case report by Schaut *et al.*, their report raises the concern that inhalation induction of anesthesia with sevoflurane for emergency cesarean section should be considered a "suitable alternative" when intravenous access is not available.¹ Whereas the authors endeavor to justify their decision, they minimize the significance of the maternal risk involved. The authors correctly state that the parturient undergoing emergency cesarean section is considered to have a full stomach and acknowledge the risk for aspiration. However, they do not clarify that the parturient has decreased lower esophageal sphincter tone and increased intragastric pressure and that the stimulus of uterine traction during cesarean section delivery places the parturient at extremely high risk of regurgitation. Additionally, laryngeal reflexes are absent during the stage of general anesthesia described in this case, and spontaneous ventilation with an unprotected airway makes this patient particularly susceptible to aspiration.

The authors also contend that infiltration with local anesthetics may take several minutes to accomplish and that the technique is no longer taught in most obstetric residencies.² However, this technique is described in major obstetrics textbooks.^{3,4} Additionally, an informal survey of staff obstetricians practicing at our institution revealed that all are familiar with local anesthetic infiltration for cesarean section, and most state that they would use this technique in an obstetrical emergency. Although the authors described a case with good maternal and fetal outcome, the risk involved and the potential for an unfavorable outcome advocate against suggesting inhalation induc-

tion with sevoflurane as a "suitable alternative" for emergency cesarean section.

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References

1. Schaut DJ, Khona R, Gross JB: Sevoflurane inhalation induction for emergency cesarean section in a parturient with no intravenous access. *ANESTHESIOLOGY* 1997; 86:1392-4
2. Busby T: Local anesthesia for cesarean section. *Am J Obstet Gynecol* 1963; 87:399-404
3. Cunningham FG, MacDonald PC, Gant NF, Leveno KJ, Gilstrap IC, Hanks GDV, Clark SL: *Williams Obstetrics*, 20th Edition. Stamford, Connecticut, Appleton & Lange, 1997, pp 387-8
4. Hawkins JL, Chestnut DH, Gibbs CP: *Obstetric anesthesia, Obstetrics: Normal and Problem Pregnancies*, 3rd Edition. Edited by Gabbe SG, Niebyl JR, Simpson JL. Churchill Livingstone, 1996, pp 425-68

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To the Editor:—We read the recent case report by Schaut *et al.* (*ANESTHESIOLOGY* 1997; 86:1392-4) describing a sevoflurane induction for emergency cesarean delivery. We cannot agree that the approach described is a reasonable alternative. The choice of an inhalation induction is not new to obstetric management and may be warranted under some extremely rare situations; however, to proceed without first establishing intravenous access seems to be an unnecessary risk. Bonica's classic text describes mask inhalation

induction with cyclopropane, and it is stated that "... when cesarean section is planned, an endotracheal tube is introduced with the aid of succinylcholine".¹ Anesthesiologists are experts at establishing vascular access. An internal jugular or subclavian catheter can be rapidly inserted, and a proper induction conducted. In addition, the induction of general anesthesia, under any circumstance, should not be undertaken without the application of routine monitors. If the obstetrician is so desperately inclined to begin the operation,