may allow the timely institution of resuscitative procedures in critical situations. Furthermore, these changes must be recorded meticulously, so that a complete retrospective evaluation of untoward events may lead to their subsequent prevention.

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REFERENCE

1. Hilley MD, Millam SB, Giescke AH Jr, Giovannitti JA: Fatality associated with the combined use of halothane and gingival retraction cord. ANESTHESIOLOGY 60:587–588, 1984

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Did Anesthetic Mismanagement Contribute to Intraoperative Death? III.

To the Editor:—The case report by Hilley *et al.*[1] of a patient death from the combined use of halothane and a gingival retraction cord impregnated with 8% racemic epinephrine may demonstrate the myocardial sensitivity and irritability of a halothane/epinephrine mixture, but this is certainly not news.

An aspect of this case deserving attention, however, is the manner in which cardiopulmonary resuscitation was conducted. We can assume that cardiac arrest was due to epinephrine toxicity, for, even in the absence of halothane, the dose of l-epinephrine present in the string—14.5 mg—was sufficient to cause critical arrhythmias. It would seem obvious then that "standard" therapy of ventricular fibrillation, that is, iv epinephrine, would be contraindicated, as would any other sympathomimetic medication (such as dopamine) or bretylium (a recommended drug for intractable ventricular fibrillation, which, as one of its effects, causes an initial sympathetic discharge and depletion of catecholamine stores). Basic cardiopulmonary resuscitation (CPR), oxygen, bicarbonate as necessary, and lidocaine or procainamide may have been useful in raising the fibrillation threshold while the epinephrine, whose normal half-life is 5–10 min, was being cleared from the plasma and halothane was being removed from the body.

While the Standards of the American Heart Association on Cardiopulmonary Resuscitation and Emergency Cardiac Care[2] are based on sound medical information and the judgment of experts in the field of resuscitation, they are designed to provide guidelines for managing the first 10–15 min of a cardiac arrest situation. They are not rigid protocols and should be modified as the clinical situation demands. In this case it seems that the resuscitation efforts were the "coup de grâce" in a series of poor judgments and practices that led to the loss of a life.

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REFERENCES

1. Hilley MD, Milam SB, Giesecke AH Jr, Giovannitti JA: Fatality associated with the combined use of halothane and gingival retraction cord. ANESTHESIOLOGY 60:587–588, 1984
2. Standards and Guidelines for Cardiopulmonary Resuscitation (CPR) and Emergency Cardiac Care (ECC): American Heart Association. JAMA 244:453–509, 1980

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In reply:—We are honored at the response and want to thank those correspondents who read our article and submitted questions and comments. We regret that we do not have information to answer questions about the details of the patient's management. We came upon this case as consultants, and when the legal complications were settled, we decided to report the case. Incompatibility of halothane and epinephrine is well known, but the content of epinephrine in gingival retraction cord is not well known.

We accept the criticisms about the standard of care. In our presentation, we did not intend to establish an ideal for readers to imitate but rather wish to warn them of a serious pitfall. The incompatibility of halothane and epinephrine-containing gingival retraction cord has not been reported previously and deserves our attention. This knowledge may lead someone to ask the appropriate questions and save a life. That was our motive.

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