

# Correspondence

Anesthesiology  
52:93, 1980

## Deaths Related to Anesthesia

*To the Editor:*—We would like to support Dr. Hamilton's view of anesthetic-related mortality.<sup>1</sup> We review all deaths that occur within 48 hours of administration of an anesthetic in our teaching hospital at six-month intervals, an annual total of between 70 and 100 cases in a total anesthetic load of approximately 39,000 patients. It is recognized that this method misses a percentage of potentially anesthetic-related deaths, but a pilot study, in which all postanesthetic deaths were assessed, established that very few relevant cases are lost.

Deaths are classified as inevitable when the initial state of the patient precludes the likelihood of life-saving treatment being successful; fortuitous when appropriate use of established techniques of medical care fail to be associated with recovery of the patient; possibly preventable, which is a judgment made with the benefit of hindsight and not implying blame; and unassessable—when the chart of anesthetic record is unreadable or where inadequate detail is available with which to classify the case.<sup>2</sup> We then present all possibly preventable cases to a full departmental meeting with the anesthesiologists involved being given prior warning but not identified at the meeting by us.

It is our belief that very few deaths related in time to anesthesia are due to unexpected responses to drugs. Anesthesiologists at our hospital are obliged to write detailed reports of deaths occurring during administration of an anesthetic, and most write recovery room summaries of complicated cases or those in which the prognosis is poor. In these they have an opportunity to outline any unexpected drug reaction. We have not

had a single one so recorded in the five years of this committee's function. We suggest, therefore, that Dr. Keats is, with respect, off the mark with his emphasis on anesthetic-related deaths being due to drugs *per se*,<sup>3</sup> and concur with Dr. Hamilton's suggestion that this is a relatively infrequent occurrence.

Finally, we consider that a review of all deaths related to anesthesia is an essential function of a department of anesthesia. We agree with Dr. Keats that the function of such a committee is not to attach blame, but to use these cases as teaching models for discussion of alternative methods of management.

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2. McIntyre JWR: Evolution of a Provincial Committee on Anesthetic and Operative Deaths: Alberta 1951–1972. *Can Anaesth Soc J* 20:578–585, 1973
3. Keats AS: What do we know about anesthetic mortality? *ANESTHESIOLOGY* 50:387–392, 1979

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*To the Editor:*—The article by Keats<sup>1</sup> and the editorial by Hamilton<sup>2</sup> reveal the marked difference in thinking that exists among eminently reputable and knowledgeable anesthesiologists concerning death and serious disability associated with the administration of anesthetics. In essence, Dr. Keats believes that the cause must be sought in the nature and actions of the drugs used, and Dr. Hamilton looks for it in the nature and actions of the user.

For the last ten years I have devoted full time to defending medical malpractice suits, both as a trial attorney and as a consultant performing medical–legal reviews of files. Scores of these cases have involved anesthesiologists and instances of cardiac arrests with resultant brain damage and death. In only a handful has it been possible to determine the etiologic factor. Almost invariably, in spite of autopsies, record reviews, and personal interviews, the cause remains undis-

covered. Obtaining second opinions from other anesthesiologists has not been of any substantial help.

Early in this work I came to the same conclusions as Dr. Hamilton. These unexplained arrests and deaths must have been due to negligence on the part of the anesthesiologist. In all probability there was an overdose, hypoxia, hypoventilation, or some combination of these errors. Or the records and deposition testimony were inaccurate, altered, or perjured. But as time has passed and I have become exposed to more cases, I have begun to change my thinking towards those views expressed by Dr. Keats. I have simply seen too many instances of cardiac arrest occurring during anesthesia administered by individuals whom I know personally, who do not lie, and who keep accurate records. Repeatedly I am confronted by instances where everything has been done properly, where there has been careful ongoing monitoring, where the dosages are minimal, the oxygenation more than adequate, and the ventilation satisfactory, only to have a sudden, unexpected cardiac arrest. It seems to happen too frequently to be explained by error by the anesthesiologist. More and more I am led to believe that we do not know enough about drug action and interaction or about the physiology of the neurologic and cardiovascular systems to rule out unknown factors and to put the blame upon the anesthesiologist unless there is clear evidence that he was at fault.

I am always amazed, shocked and saddened when an anesthesiologist testifies for a plaintiff and against a fellow anesthesiologist in a case where no definite cause for the accident can be found, to hear him state his opinion that it is the fault of the anesthesiologist. He will claim that the very fact that no cause is obvious is the reason that it must have been overdose, hypoxia or hypoventilation. It is almost as unsettling to hear a defense expert testify under similar circumstances that

it must have been a reflex, an allergy, or an interaction when there is no evidence of any of these. Surely we should all have the intellectual honesty to say simply that we do not know when the facts permit only what really amounts to speculation.

My plea is for continued research and investigation into the causes of death and injury associated with anesthesia. In the meantime, expert witnesses should refrain from giving opinions without facts and based upon the theory that if there is no definite explanation it must have been the anesthesiologist's fault. Let us give him the presumption of innocence, not guilt. At the same time, anesthesiologists must not be allowed to hide behind the "Act of God" theory, but must be held to high standards of practice so that the patient receives the best possible care and the incidence of arrest and death is held to a minimum. Only when his deviation from these standards is clearly the cause of the injury should he be held liable, based upon known facts, not speculation.

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1. Keats AS: What do we know about anesthetic mortality? *ANESTHESIOLOGY* 50:387-392, 1979
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*In reply:*—The letter by Doctors Turnbull, Smith and Banting supports my prejudice. The letter from Dr. Engel summarizes the dilemma very well. There may be some misunderstanding in the third paragraph of Dr. Engel's letter. I wish to emphasize that I did not state or imply a condition of negligence, nor did I imply alteration or perjury in connection with the hospital records, deposition or testimony. In the complex situation in which we live and practice, such un-

savory situations are not necessary for the production of undesirable outcomes.

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