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In Reply:—Shortly after the appearance of Dr. Katz's letter and my reply, I was contacted, first in writing and then by telephone, by Nassib Chamoun, President and CEO of Aspect Medical Systems (Natick, MA). In an extensive conversation, I reiterated the general concerns expressed in the letters, *i.e.*, that misleading stories in the popular media concerning awareness and the use of the BIS monitor (intentional or otherwise), as well as statements being made directly to anesthesiologists, were creating difficulties for practitioners whose only interest was trying to care for their patients. I also passed on remarks made to me by many anesthesiologists (who I did not identify), indicating a belief that Aspect Medical Systems was somehow connected with such stories. Mr. Chamoun strongly denied any such connection or intent and expressed his concern that such beliefs were damaging the relationship between the company and the anesthesia community, a relationship that he wished to preserve.

After this conversation, a revised "formal" Letter to the Editor was submitted to our office for publication. That letter is printed here.

Michael M. Todd, M.D.
Editor-in-Chief, ANESTHESIOLOGY
Professor, Department of Anesthesia
The University of Iowa
Iowa City, Iowa 52242-1009
anesthesiology@uiowa.edu

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Sevoflurane and Lumbar Cerebrospinal Fluid

To the Editor:—Talke *et al.*[1] recently reported that sevoflurane increases lumbar cerebrospinal fluid pressure (LCSFP) in normocapnic patients undergoing transsphenoidal hypophysectomy. The authors should be congratulated for simply reporting their observations without speculating on the cause of the increase in LCSFP. The authors correctly pointed out that this increase in LCSFP is significant but clinically irrelevant and observed that the increase in LCSFP is at variance to previously reported results from our group.[2] They also pointed out that our baseline results were obtained during 70% nitrous oxide; therefore, the lack of increase in intracranial pressure with sevoflurane that we observed could be reinterpreted as sevoflurane having the same effect as 70% nitrous oxide. We would like to point out that there are two other interpretations that the authors might have missed: (1) In our study, the intracranial pressure is measured using an intraparenchymal fiberoptic catheter. This is generally considered to be more accurate than LCSFP. Although changes in the latter are valid, factors other than cerebral physiology may be involved. (2) The authors measured baseline LCSFP values during propofol–nitrous oxide anesthesia. Because propofol is a cerebral vasoconstricting agent, whereas sevoflurane is not, a more appropriate interpretation of the authors' data is that LCSFP is higher during sevoflurane anesthesia compared with propofol–nitrous oxide anesthesia.

As published, the title of the article is misleading because it implies that sevoflurane anesthesia increases LCSFP compared with unanesthetized patients. With all studies, the choice of the control group is critically important and affects the interpretation of the observations.

Arthur M. Lam, M.D., F.R.C.P.C.
Alan A. Artru, M.D.
Department of Anesthesiology
University of Washington
Seattle, Washington 98104-2499
artlam@u.washington.edu

References

1. Talke P, Caldwell JE, Richardson CA: Sevoflurane increases lumbar cerebrospinal fluid pressure in normocapnic patients undergoing transsphenoidal hypophysectomy. ANESTHESIOLOGY 1999; 91:127–30

2. Artru AA, Lam AM, Johnson JO, Sperry RJ: Intracranial pressure, middle cerebral artery flow velocity, and plasma inorganic flouride concentrations in neurosurgical patients receiving sevoflurane or isoflurane. Anesth Analg 1997; 85:587–92

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In Reply:—We appreciate the interest of Drs. Lam and Artru with respect to our article.[1] We agree that there may be several interpretations to their findings that intracranial pressure did not increase when nitrous oxide was replaced by sevoflurane.[2] However, we are not aware of studies showing that intraparenchymal fiberoptic catheters provide a more accurate measurement of intracranial pressure than lumbar cerebrospinal fluid pressure (LCSFP) in patients with unobstructed fluid pathway between the intracranial and spinal CSF fluid spaces. Furthermore, any obstruction of the fluid pathway in our study should have caused us to underestimate the increase in intracranial pressure caused by sevoflurane. We disagree with Drs. Lam and Artru's reinterpretation of our results that LCSFP is higher during sevoflurane anesthesia compared with propofol–nitrous oxide anesthesia. Because we added sevoflurane to propofol–nitrous oxide anesthesia, a more accurate interpretation of our results is that addition of sevoflurane to propofol–nitrous oxide anesthesia increased LCSFP. We also agree that the choice of the control group is critically important in interpretation of the observations. In our study, the only variable part of anesthesia was sevoflurane, whereas Drs. Lam and Artru varied two anesthetics with known effects on intracranial pressure (sevoflurane and nitrous oxide) compared with the respective control groups.

Pekka Talke, M.D.
Associate Professor
James E. Caldwell, M.B.Ch.B.
Associate Professor
Charles A. Richardson, Ph.D.
Assistant Professor
Department of Anesthesiology
University of California–San Francisco
San Francisco, California 94143
talkep@anesthesiology.ucsf.edu

References

1. Talke P, Caldwell JE, Richardson CA: Sevoflurane increases lumbar cerebrospinal fluid pressure in normocapnic patients undergoing transsphenoidal hypophysectomy. ANESTHESIOLOGY 1999; 91:127–30

2. Artru AA, Lam AM, Johnson JO, Sperry RJ: Intracranial pressure, middle cerebral artery flow velocity, and plasma inorganic fluoride concentrations in neurosurgical patients receiving sevoflurane and isoflurane. Anesth Analg 1997; 85:587–92

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Informed Consent Issues

To the Editor:—The editorial by Drs. Truog and Robinson was both interesting and thought-provoking.[1] Among the many salient issues discussed, obstacles to effective informed consent was a particularly poignant topic. Truog and Robinson clearly outlined how mandates for informed consent in emergency medical situations nearly stifled important clinical research in this crucial medical venue. Most physicians would agree that some modifications are necessary to ensure patient protection while still allowing investigation in situations in which obtaining consent is difficult or impossible.

However, we must take issue with the example used whereby Truog and Robinson propose bypassing informed consent, ostensibly because "it won't matter to the patient." To review, the authors site an example of comparing two long-used disinfecting surgical preparation soaps to see which has the lowest infection rate. Because they believe that it would be difficult to understand how a patient would have an objection to participating in such a trial, they find it ". . . difficult to see the value of obtaining specific informed consent. . ." Furthermore, they think that obtaining informed consent would ". . . significantly increase the logistical difficulties of performing the trial. . ." However, it is exactly this situation that should require informed consent. The scope of the investigation is clear. The outcome of the study is clearly defined. This does not significantly increase logical difficulties, rather, informed consent is even easier to obtain than in many other trials because of the straightforward nature of the study.

The work of Dr. Beecher would be for naught if we subjectively decide which information the patient does or does not need to know. When the ability to obtain informed consent is not compromised because of a life-threatening emergency, patient autonomy should always be respected and consent obtained.

Drs. Truog and Robinson spark an interesting debate on the future of informed consent. They point out specific areas in which dialogue and investigation are needed. However, we should not forsake our ethical or professional obligation to our patients to simplify our research protocols. As Dr. Beecher has shown us, informed consent is an important and inalienable patient right.

Robert W. Kyle, D.O.
Resident in Anesthesiology
Baystate Medical Center
Springfield, Massachusetts 01199