

CORRESPONDENCE

Anesthesiology
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A Survey of the Performances of Six Anesthesia Journals

To the Editor:—We attempted to measure the performances of six journals of anesthesia. The journals included in the survey, in alphabetic order, were: *Acta Anaesthesiologica Scandinavica* (Acta Anaesthesiol Scand); *Anaesthesia*; *Anesthesia and Analgesia*; *Current Researches (Cleveland)* (Anesth Analg Cleve); *Anesthesiology*; *British Journal of Anaesthesia* (Br J Anaesth); and *Canadian Anaesthetists' Society Journal* (Can Anaesth Soc J).

Two indicators were used to evaluate the significance of each journal: total number of citations and index of significance. Total number of citations is the number of times each journal was referenced during 1978 in the six journals of anesthesia. The index of significance for each journal is calculated by dividing the number of citations during 1978 by the number of articles published in that journal within 1978. An objection could arise from the fact that some of the citations were to articles published in earlier years. However, this objection presumably applies equally to all of the journals included in the survey. Besides, if an article is going to be cited, it is most likely to be cited during the first or second year after publication.¹

Table 1 indicates for each journal the number of articles published within the year 1978, the number of total citations and the index of significance. *Anesthesiology* and the *British Journal of Anaesthesia* published the greatest numbers of articles; this was expected, since both of these journals are issued monthly. Articles from *Anesthesiology* were cited 1,919 times. The *British Journal of Anaesthesia* followed with 1,342 citations, *Anesthesia and Analgesia* had 624, *Acta Anaesthesiologica Scandinavica* had 397, *Anaesthesia* had 380, and the *Canadian Anaesthetists' Society Journal* had 344.

The significance of these differences is best reflected by the index of significance. Thus, although the *Canadian Anaesthetists' Society Journal* had the least

TABLE 1. Numbers of Articles Published during 1978, Numbers of Total Citations, and Indexes of Significance for Six Journals

	Number of Articles	Number of Total Citations	Index of Significance
Acta Anaesthesiol Scand	174	397	2.28
Anaesthesia	112	380	3.39
Anesth Analg (Cleve)	144	624	4.33
Anesthesiology	189	1919	10.15
Br J Anaesth	188	1342	7.13
Can Anaesth Soc J	94	344	3.65

number of citations (344), it was fourth as judged by the index of significance (3.65). *Anesthesiology* had the highest number of total citations and the highest index of significance (10.15), followed by the *British Journal of Anaesthesia* (index of significance = 7.13).

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Administer Oxygen First in the Treatment of Local Anesthetic-induced Convulsions

To the Editor:—In an editorial, Albright theorized that six "anecdotal" cases of convulsions with cardiac arrest were a result of the direct myocardial depressant effects of etidocaine and bupivacaine, not of

"antecedent" hypoxia. That these patients were "under the direct supervision of anesthesiologists" should not be construed to imply that the administration of the regional block and/or the treatment of the result-

ing complication were correct, or that severe hypoxia and acidosis were not the cause of the cardiac arrest. Indeed, my experiences indicate just the opposite.

From 1948 through 1979, the Anesthesia Department of The Mason Clinic has performed 113,623 regional blocks (20,842 epidural, 29,960 caudal, 28,725 spinal, and 34,096 peripheral nerve blocks). In these cases, bupivacaine was used in 17,939 blocks (4,192 caudal, 6,475 epidural, and 7,272 peripheral nerve blocks), and etidocaine in 1,347 such blocks. From all local anesthetic drugs, 437 mild systemic toxic reactions and 137 convulsions have occurred. Nineteen patients convulsed from bupivacaine (0.1 per cent) and one from etidocaine (0.07 per cent). The ages of these 20 patients ranged from 15 to 79 years, and their American Society of Anesthesiologists physical statuses ranged from 1 to 3. *In none of the 137 patients who convulsed did cardiac arrest occur.*

Why is this so? Could it be that we have avoided cardiac arrest by ventilating the patient with oxygen as the first step in the treatment of local anesthetic-induced convulsions?² With this complication, in both man and animals, oxygenation is essential.²⁻⁷ When systemic toxicity from a local anesthetic drug occurs, our dictum is, "*Reach for the mask, not the syringe or endotracheal tube.*" Once ventilation is established with oxygen, drugs may be injected and/or intubation performed. Contrarily, others administer thiopental and/or diazepam, and/or try to intubate the trachea as the first step. These drugs are injected because barbital sodium in paraldehyde and diazepam were demonstrated to prevent and/or abort convulsions in animals.^{3,4,8,9} The investigators of barbital sodium in paraldehyde cautioned: "The proof of this must of necessity await its clinical application."³ However, one of the investigators of diazepam extrapolated the data to man.^{10,11} To date, no studies in man have shown either drug to protect against or to abort all systemic toxic effects from an inadvertent intravascular injection of a local anesthetic drug. Although they may dampen the seizure activity of the brain, the question arises: Do they have a beneficial effect on the action of local anesthetic drugs on the human cardiovascular and respiratory systems? I doubt they do. In a patient in whom direct myocardial depression, as well as severe hypoxia and acidosis, has resulted from the local anesthetic drug (data to be published), the administration of drugs that further depress the cardiovascular and respiratory systems as the first step in treatment is inviting cardiac arrest.

Thirty-seven years of equal daily clinical experiences with *both* regional and general anesthesia (1979 Mason Clinic statistics: 4,287 general anesthetics and 4,857 regional blocks) has taught me that in both methods the techniques and the drugs used

can be lethal. I agree with W. K. Hamilton—the onus for unexpected complications often rests on the anesthetist, not on the technique or the drug.¹² Before incriminating the drug, as suggested by Albright, we must know at least the following: 1) the circumstances under which the block was performed; 2) the interval between convulsions and the initiation of emergency therapy; 3) the therapeutic endeavors; 4) their sequence. In four of the cases cited by Albright, such data were not given.¹ In the two documented cases, it is doubtful that the drug was the cause of the cardiac arrest. Even the authors of these articles did not incriminate the drug.^{13,14}

To conclude, theorizing as done by Albright and extrapolation of animal data to man as done by de Jong can be dangerously misleading.^{1,10,11} *In medicine, believing is not enough. One must know!*

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