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Atracurium in Normal Doses May Release Histamine

To the Editor:—I read with interest the report by Sokoll *et al.*[1] regarding their experience with the nondepolarizing muscle relaxant, atracurium (BW 33A). I was surprised to find that none of their patients showed any signs of histamine release following injection of atracurium.

In clinical practice I have used atracurium in a series of 20 A.S.A. class 1 patients, ages 20–50 years, undergoing low-risk gynecologic surgery. Premedication consisted of meperidine, 50 mg, and atropine, 0.6 mg, given one hour prior to surgery. Anesthesia was induced with thiopental, 5 mg/kg, and neuromuscular blockade was achieved with atracurium, 0.4–0.5 mg/kg. Both agents were injected via an indwelling needle in the dorsum of the hand, care being taken to flush the needle between drugs. Anesthesia was maintained with a mixture of nitrous oxide, oxygen, and halothane 0.5%.

In this series, over 50% of the patients were noted to have an urticarial "histamine-like" reaction extending up the forearm along the path of the injected atracurium. Ten per cent of the patients had short-lived erythematous reaction involving the head, upper trunk, and arms, which was not associated with any significant hypotension. One patient had a moderate but self-limiting episode of bronchospasm.

From these observations it would appear that atracurium does have the ability to release histamine. I suspect the marked difference in incidence of histamine release between these two series is a reflection of the different modes of drug administration. In their series, Sokoll *et al.* injected atracurium into an indwelling catheter that was flushed by a presumably fast running infusion; this would have the effect of rapidly increasing the *p*H of the acid (*p*H 3.5) atracurium. In my series there would not have been such a rapid increase in *p*H, and therefore I suggest that the histamine release may be a *p*H-related phenomenon.

I conclude that atracurium may release histamine in clinically significant amounts with normal paralyzing doses and suggest that this may be related to the technique of injection.

M. A. FOX, M.B.
Liverpool Maternity Hospital
Oxford Street
Liverpool L7 7BN
England

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Computer Network for Program and Data Exchange

Microcomputer hardware is now becoming plentiful and cheap. However, software, programs that make use of the hardware, presents a threefold problem: 1) There is little software that does exactly what the user needs. 2) It is possible to hire a programmer to write your software; however, this is expensive and often frustrating because of the frequent lack of communication between the programmer and user. 3) You can write your own programs but this is very time-consuming and the end result is always in question.

There is a large quantity of software being written by anesthesiologists, but, until now, there has been no framework available for program exchange. We would like to point out that the American Association for Medical Systems and Informatics (AAMSI) now provides such a framework through its Professional Speciality Group on Anesthesiology Information Support Systems (PSG-37). AAMSI is a non-profit organization dedicated to the development and implementation of computer systems to support patient care, teaching, research, and health administration. AAMSI sponsors two on-line telecommunications services that provide a means for information exchange, electronic mail, and software exchange.

On The Source,[1,2] the AAMSI Special Services Network: 1) publishes an on-line newsletter, the *AAMSI News* (also available in hardcopy format); 2) provides a means of contacting others with an interest in anesthesiology; and 3) contains a small software library available for downloading to your personal computer. By contacting Dr. Douglas R. Mackintosh (Source ID: TCP230), the

editor of The Source AAMSI network, subscribers to The Source may gain access to the AAMSI Special Services Network.

On the CompuServe Information Service,[1,2] AAMSI provides two separate communication facilities: 1) The AAMSI Communications Network (another on-line version of the *AAMSI News*), and 2) The AAMSI Medical Forum, also known as the MEDical Special Interest Group (MEDSIG). The MEDSIG provides an organized framework for communication with other physicians by means of electronic mail, a computer bulletin board, and on-line conferences. It is also possible to exchange text files or programs by means of the SIG/ACCESS database system. The AAMSI databases on CompuServe are freely accessible by all subscribers to the CompuServe Information Service.

CompuServe and The Source are accessible through standard telephone lines, requiring only a computer terminal and a 300 or 1200 baud modem. Many physicians, however, choose to use their personal computers to send (upload) and receive (download) messages and programs directly from disk files in order to save time and communications costs. Subscribers to these National Information Utilities are charged only for the time they are connected to the service, and billing is customarily through a bank card. These databases of software and medical information have been created by donations from AAMSI and MEDSIG members. One advantage of this method of software distribution is that program authors do not have to make and distribute copies. In addition, software updates can be entered in the database with notices distributed to all anesthesiologist members.

Michael Ashman (CompuServe ID: 76010,543 or 70315,224) and Franklin Scamman (CompuServe ID: 71515,452) are section coordinators for the Anesthesiology PSG. Messages may be addressed to them using the "Leave message" command of CompuServe's MEDSIG or by means of CompuServe's electronic mail system, "EMAIL." Dr. Ashman has created an extensive series of files, MEDSIG.HL1, MEDSIG.HL2, MEDSIG.HL3, and MEDSIG.HL4, which are available through the MEDSIG's SIG/ACCESS database system and describe in great detail how to find your way around CompuServe and the MEDSIG and how to upload and download files.

We strongly encourage computer-minded anesthesiologists to join AAMSI, subscribe to The Source or CompuServe, and participate in program and information file exchange for the mutual benefit of all anesthesiologists. Information about membership in AAMSI is available by calling 301-657-4142. Information about CompuServe is available by calling 800-848-8990 (in Ohio, 614-457-0802). Information about The Source is availabe by calling 800-336-3366 (in Virginia, 703-734-7500).

MICHAEL N. ASHMAN, M.D.
Assistant Professor
Department of Anesthesiology
University of Maryland Hospital
Baltimore, Maryland 21201

FRANKLIN L. SCAMMAN, M.D.
Assistant Professor
Department of Anesthesiology
University of Iowa Hospitals
Iowa City, Iowa 52242

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Another Case of Grand Mal Seizure after Fentanyl Administration

To the Editor:—We read with great interest the report of a grand mal seizure after the administration of fentanyl by Safwat and Daniel.[1] The report was read the day after we encountered a similar situation in our hospital. Our patient was a 17-year-old male who had been anesthetized on two prior occasions, both of which, were uneventful. He returned for an open reduction of an ankle fracture. After placement of the patient on the OR table, with both arms secured to arm boards, the administration of 100 μg of fentanyl resulted in a grand mal seizure so severe the patient dislocated both shoulders, and he required closed reduction under general anesthesia. The seizure was controlled with 300 mg of thiopental. The patient had an uneventful recovery. The patient's post-