LETTER TO THE EDITOR

DEAR SIR:

We want to congratulate the authors, Conyers, A.B. *et al.* (Canad. Anaesth. Soc. J., 19: 654, 1972) on their most interesting article in your journal. We are pleased to confirm their findings that fiber optic bronchoscope made by Olympus Optical Co. greatly facilitated nasotracheal intubation in patients with particular problems of the airway. We have successfully utilized it in a number of patients in the past three years. The high initial cost, however, may limit its widespread application. In addition, its excessive length reduces its maneuverability. Therefore, we set out to develop a fiberoptic laryngoscope which is shorter and smaller in diameter and costs a fraction of the Olympus bronchoscope. After five years of futile negotiations with Olympus, Bausch and Lomb, American Cystoscope Makers; American Optical Co. finally designed an inexpensive prototype. We have successfully used it in five out of eight patients for nasotracheal intubation.

From our experience gained with these instruments, we may make four observations: (1) Proper up-and-down angulation of the tip of the fiberoptic laryngoscope is essential for its swift introduction into the trachea; (2) Armored tubes should preferably be used instead of Portex or rubber-tubes; (3) Spontaneous breathing with movements of vocal cords aids visualization of the glottis; (4) The tip of the fiber should be advanced at least for 1-1½ inches into the trachea so that the tube would not be dislodged during introduction; (5) Good suction should be available, preferably built into the scope.

Problems encountered with the use of fiberoptic scope: (1) Unless the laryngoscopist is thoroughly familiar with the instrument and has previously gained experience with it in dummies or cadavers, he may experience difficulties at the first trial and may cause complications; (2) Oral intubation may be difficult with it, unless a standard laryngoscope is also used as a guide; (3) Coating of the tip may interfere with visualization; (4) Breakage of the fiber may occur, if the fibers are strained inside a rigid endotracheal tube; the use of plastic instead of glass fibers may eliminate this costly problem; (5) In an occasional patient, intubation may not be accomplished and tracheostomy is required, therefore preparation for tracheostomy should always be made.

Two new techniques proposed by my associates may have some promise to facilitate intubation: (1) Transillumination of the neck may facilitate the localization of the tip; (2) Retrograde introduction of an intravenous catheter or stylet into the trachea may guide the fiberoptic scope to the right direction.

I hope that more colleagues will join us in our efforts to develop the ideal fiber optic laryngoscope, since the low cost (less than \$300) makes this instrument now widely available.

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DEAR SIR:

The article of Dr. G. Chen (*Canad. Anaesth. Soc. J.*, 20: 180, 1973) entitled "Sympathomimetic Anaesthetics" is an excellent educational review which everyone in our field should read. A comparison of structure-activity relationship of ketamine (Ketalar, Ketaject) with ketoamines with sympathomimetic effect, which I studied between 1950 and 1955, led me to study plasma free-norepinephrine levels during ketamine anaesthesia. As expected from the chemical structure-activity relationship, we found marked elevation in plasma free-norepinephrine concentration at two and five minutes following 2.0 mg/kg ketamine intravenously as reported in *Anaesth. and Analg.*, 51: 595-6, 1972. We also showed recently that 0.2 mg/kg diazepam partially blocks the hypertension, tachycardia, and rise in norepinephrine caused by ketamine, thereby extending the indications for using ketamine as an induction agent. It is questionable, however, whether diazepam also blocks the other effects of ketamine exerted on various areas of the brain, such as motor hyperactivity and hallucinations. With regards to the hallucinations, it would be important to know whether ketamine has any effect on the norepinephrine content of the human cerebral cortex, which recently was shown to contain norepinephrine storage granules (Nyström *et al.*, *Science* 176: 924, 1972). Further studies on the influence of anaesthetics on cerebral cortical catecholamine stores and release may explain the stimulating effect of some agents, such as enflurane, ketamine, and that of hexafluorodiethyl ether, which is known as an inhalational convulsant.

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