CORRESPONDENCE

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SIR

ANAESTHESIA FOR BRONCHOSCOPY

We hear and read increasingly frequent accounts dealing with the alleged advantages for general anaesthesia for peroral endoscopic procedures. Those who advocate general anaesthesia usually justify their stand by the excellent operating conditions which can be obtained. Because of the problem of maintaining adequate ventilation under general anaesthesia, more and more anaesthetists resort to apnoeic techniques and maintain ventilation by means of cuirasses or similar contraptions. This seems to me to be an unduly cumbersome method which in any case is limited to the larger institutions where not only are the requisite paraphernalia available, but also their correct use is understood. This is just one further step in the fashionable direction of what one might call "mechanized anaesthesia."

Such eminent authorities in the field of peroral endoscopy as Chevalier Jackson and Hollinger of Chicago have for years advocated the use of topical anaesthesia for these procedures in adults. As long as this is carried out with due regard to the fact that local anaesthetic drugs given to excess can be as toxic as other drugs in overdosage, and as long as the topical anaesthesia is carried out expertly, it is not only safe but operating conditions are quite excellent and the examination need not be unduly hurried. This then leaves only a relatively small number of patients who, by virtue of their temperament or because of their unwillingness to accept topical anaesthesia, require abolition of consciousness I am convinced that this can be done much more safely and with less fuss and bother by a technique which we have described one year ago in the *Journal of the Canadian Medical Association* (1).

Let us assume that the patient has come to the endoscopy room fairly well sedated with a narcotic but is still unco-operative. He is then first given Levellorphan intravenously at the ratio of 1:100 to the premedicating narcotic to counteract any possible depression. Levallorphan is preferred to Nallorphine because any relative overdose will not potentiate the narcotic depression. He may then either be given Perphenazine intravenously not exceeding 5 mg., or small fractional increments of a mixture of Meperidine and Levallorphan in a ratio of 100:1, or both depending upon the amount of premedication which he has received, his general body build, and the state of apprehension. These increments are given slowly and dilute and the effects are observed after each injection until the patient is asleep but remains responsive to stimulation and can co-operate. As soon as the desired state of sedation has been reached,

dimethyl tubo curarine 2 mg is injected (or 4 mg in the exceptional, very muscular individual) and supplemental injections of half the initial dose are given every two to three minutes until the patient's jaw is relaxed but short of any appreciable intercostal paralysis. A succinylcholine drip is less satisfactory because of the narrow margin between relaxation of the jaw and respiratory distress. A transtracheal block with tetracaine 1 per cent 2 ml (20 mg) is now done, the endoscopist exposes the larynx and sprays it from above with a small amount of the same topical anaesthetic The endoscopic procedure is then proceeded with, and as the bronchoscope is being advanced into the main-stem bronchi it may be necessary to add to the topical anaesthesia by means of a long-nozzle spray

This method has served us well on all patients who were too unco-operative to be bronchoscoped under local anaesthesia alone, that is in the really difficult cases There has been no evidence at any time of marked interference with tidal exchange and the surgeon can take all the time he needs to complete the procedure while oxygen is being insufflated into the side-arm of the bronchoscope If the examination is unduly prolonged, it may be necessary after some 20 to 25 minutes to give a very small additional dose of relaxant as the patient begins to bite on the bronchoscope If relatively large amounts of relaxant have been necessary, we inject edrophonium 10 mg at the end of the procedure to be certain that the patient is not returned to the Recovery Room in a partially curarized condition after surgical stimulation has ceased We have yet to encounter one single patient who had any recollection of the operative procedure

Yours faithfully,

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REFERENCE

1 WYANT, G M, DOBKIN, A M, & KILDUFF, C J Problems of Anaesthesia for Bronchoscopy C M J 76 1011–1015 (June 15, 1957).