crisis. His response to halothane could certainly have been due to increased circulating adrenaline. Many similarly nervous patients, but who are not under treatment with amine oxidase inhibitors, are anaesthetized with halothane as an adjuvant to nitrous oxide and oxygen as outpatients every day in this hospital and without this effect. It does seem, therefore, that this response must be ascribed to the amine oxidase inhibitor drug.

It would seem prudent, therefore, to avoid the use of halothane in the presence of an amine oxidase inhibitor even at small dose levels or at any rate to observe extreme caution in such cases where this type of medication is known to be in use.

I am grateful to Professor H. C. Killey and Dr. V. Goldman of the Eastman Dental Hospital for their interest in this report of their case.

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REFERENCE

METHOXYFLURANE AND BLOOD PRESSURE
Sir,—I was interested to read the paper by Black and Rea (Brit. J. Anaesth., 36, 26) on the effects of methoxyflurane in paediatric anaesthesia, and, in particular, their comment upon the lack of hypotension. However, they go on to say "... in the adult, hypotension is frequently seen when methoxyflurane is inhaled". In support, they quote the findings of Walker, Eggers and Allen (1962) who, from haemodynamic studies on five males admitted for elective surgery, state "... the cardiovascular effects of methoxyflurane anaesthesia resemble those of halothane rather than diethyl ether...", which agreed with their clinical experience. They quote Bagwell and Woods (1962), who, in thirty-five dogs found "... the degree of cardiovascular depression during induction and light levels of anaesthesia with methoxyflurane are similar".

In the past ten months I have been using methoxyflurane in various fields, and it is my clinical experience that one of its advantages is that blood pressure is maintained close to pre-induction levels during anaesthesia—indeed, this stabilizing cardiovascular effect makes it especially valuable in selected cases.

In this, our results are more in line with Knox, North and Stephen (1962), who, in a study using methoxyflurane and controlled ventilation, found that "... since the conventional signs for determining the depth of anaesthesia were absent with methoxyflurane, the level of anaesthesia was followed clinically by response of blood pressure to increase and decrease of concentration. In this series, almost complete muscle relaxation could be obtained while maintaining a clinically adequate systolic pressure—during surgical procedures the average reduction in systolic pressures from pre-operative reading was 12.3 mm Hg". The maximum concentration available from their vaporizer was 1.6 vols per cent; induction was with a minimum of 1 per cent and maintenance from 0.2 to 0.5 per cent. Without attempting to produce muscle relaxation (I do not think methoxyflurane used alone is suitable for abdominal surgery) and using higher concentrations than those of the American workers—viz., 2.8 per cent for induction and approxi-

mately 1 per cent for maintenance—I have seen very little cardiovascular depression. The fact that systolic pressure remains high during administration makes it the agent of choice for procedures where avoidance of hypotension is either obligatory or preferable, and where relaxation is not required. I use it for peripheral arterial surgery, arteriography, especially carotid, the pinning of hips in the elderly and so on, and hope soon to publish a paper with a fuller report on my findings.

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REFERENCES


ACETYLCOLINENE—HYDROLYSIS OR DESTRUCTION
Sir,—Thank you very much indeed for inviting me (Brit. J. Anaesth., 36, 66) to explain my views on the terminology of acetylcholine hydrolysis.

It is stated (Evans and Gray, 1959) that "Acetylcholine depolarises the region and is almost immediately hydrolysed by a tissue enzyme cholinesterase, to acetic acid and choline...".

Other authorities (Wylie and Churchill-Davidson, 1960) state: "... acetylcholine molecules only have a minute distance to travel before reaching their target... their subsequent fate, however, is a little more obscure. The majority are certainly hydrolysed by the specific enzyme-cholinesterase to acetic acid and choline. The molecules of choline are then available for resynthesis by the nerve terminal".

Another authority (Foldes, 1957) states "acetylcholine is attracted to... the acetylcholinesterase and is rapidly hydrolyzed to acetic acid and choline... subsequently the hydrolysis products of acetylcholine, choline and acetic acid are resynthesised to acetylcholine..."

Another authority (Samson Wright, 1963) says: "...cholinesterase splits acetylcholine to choline and acetic acid. The choline is available for synthesis of more acetylcholine..."

Thus it can be seen that there is general agreement that after the hydrolysis of acetylcholine by acetylcholinesterase into acetic acid and choline, this latter becomes again available and is used for resynthesis into acetylcholine.

On the other hand, the term "to destroy" is defined (Pocket Oxford Dictionary, 1952) as "reduce to nothing or to uselessness" and by another source (Concise Oxford Dictionary, 1952) "make useless, annihilate".

From all the foregoing it would, therefore, appear that, when describing the action of an enzyme in general, and, in this case, of acetylcholinesterase in particular, the term "to hydrolyse" or "to split" would be the term of choice and that the term "to destroy" ought not to be used in this context.

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