


LONG-TERM DANGERS OF KETAMINE ANAESTHESIA

Sir,—The Editorial by Drs Schorn and Whitwam (1980) states that ketamine as used in anaesthetic practice is “unlikely to cause permanent changes in personality or intellectual function”; yet the authors have failed in their assessment to mention a very serious potential hazard and one which has severely restricted my own use of this drug since studying its side-effects and reporting on 131 cases (Collier, 1972), although I recognize its value in the radiotherapy chamber, emergency fieldwork and a practical teaching programme.

Although the dreams are frequently referred to as unpleasant experiences, the visual content is only rarely unpleasant and in fact usually intensely beautiful. Brightly coloured or luminous patterns, “like floating down a kaleidoscope” are commonly described. The hypnagogic state of sleep induced by ketamine allows some patients to reason that, since they are under anaesthesia, the strange, unexpected intensity and unfamiliar dimension of their experience means they must have died and these are the qualities of the dreaming they find unpleasant and frightening. Some patients spontaneously related the experience to psychedelic drugs and felt concerned that, never having had any desire to take such drugs previously, after anaesthesia with ketamine they might feel tempted to try. Caution and restraint would thus seem to be indicated with children, particularly teenagers. “Fantastic, I flew to the moon in a space ship and it was fireworks all the way” may seem a harmless comment from a boy of 10 years but when discussed with older children the relative potential dangers are obvious.

Although premedication with nitrazepam and droperidol (Johnstone, 1972) effectively controls the disturbing emergence, sensory phenomena, athetoid and myoclonic movements and vomiting that occur with ketamine, the dreaming during anaesthesia is not so well suppressed and still remains a problem (Collier, 1973).

Reports indicate that the frequency of e.e.g. activity is increased during ketamine anaesthesia, for example 30–40 Hz, particularly in the frontal area (Schwartz, Virden and Scott, 1974), and suggest there can be a prolonged increase in seizure frequency (Bennett et al., 1973), but the patient who, after his one anaesthetic with ketamine (Collier, 1972), experienced side-effects which replicated the combined effects of one dose of marijuana and one dose of LSD taken earlier on separate occasions, provokes the anticipation that certain drugs could trigger patterns of response. It would be interesting to know if any of the patients mentioned in the Editorial who suffered extended psychological problems after ketamine anaesthesia were in fact taking other drugs of similar structural composition or site of action to ketamine.

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REFERENCES


Sir,—I am pleased that Dr Collier shares our concern regarding the potential long-term effects of ketamine which prompted the Editorial by Schorn and Whitwam (1980). May I refer Dr Collier to the bibliography attached to the Editorial for information regarding the use of other drugs in the subjects reported?

Dr Collier makes the point that some of the hallucinations associated with ketamine may be so pleasant and desirable as to make some subjects, particularly teenagers, seek further experiences with drugs. However, similar remarks could be made in relation to other drugs used in anaesthesia, for example opiates and barbiturates. Ethics committees will not allow the administration of opiates to normal subjects for experimental purposes and perhaps this should apply to ketamine. Surely the point is that no “psycho-sedative” or narcotic drug should be administered to anyone without a good reason and the appropriate compromise between desirable and undesirable properties should always be made.

I have grave doubts as to the desirability of the frequent repeated administration of ketamine as a matter of anaesthetic convenience in any one patient. In this situation one could accept the possibility of permanent effects, and as yet it would appear that neither appropriate clinical observations nor properly controlled studies on animals have been made.

However, Dr Collier indicates, in the opening paragraph of her letter, that in certain clinical situations the advantages of ketamine may be deemed to outweigh its known side-effects. The evidence currently available suggests that, when used on only a limited number of occasions in any one subject, ketamine does not produce permanent changes in the central nervous system. The question of setting a subject at risk on the road to addiction is a much wider problem and may apply to the use of any anaesthetic drug. However, although ketamine may evoke desirable experiences in some young subjects, I am not aware of any hard evidence that ketamine used in anaesthesia has caused addiction.

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REFERENCES