Genital examination under ketamine sedation in cases of suspected sexual abuse

EDITOR.—We were surprised by the choice of ketamine as a sedative agent in genital examination in cases of suspected sexual abuse.1 Ketamine is an unusual anaesthetic agent. It is a derivative of phencyclidine (‘Angel Dust’) and produces a hallucinatory anaesthetic state, with profound analgesia. The drug interferes with the patient’s ability to organise thoughts and understand the environment during emergence from anaesthesia. Although less common, data in adults implies that emergent phenomena are not rare in unpremedicated children (8% under 16 years, 24% over 16 years of age).2 In addition, ketamine may cause severe postoperative hallucinations lasting up to a year in children.3 An anti-sialogue is an important adjunct to block the increased salivation caused by ketamine, but atropine has the disadvantage of increasing the incidence of unpleasant dreams.4 These psychomimetic properties tempered the initial enthusiasm for ketamine in the anaesthetic community and have tended to limit its use to those situations where the anaesthetic, sympathomimetic and catecholamine properties are useful, such as in the dressing of burns and the management of trauma and mass casualties.

We feel that ketamine is not a suitable agent for this difficult problem of examining suspected victims of child sexual abuse because emergent phenomena may result in the child interpreting the examination itself as sexual abuse. We would suggest that if an intravenous sedating anaesthetic such as an amnesic agent, benzodiazepine properties such as a benzodiazepine should be added as this has been shown to reduce the incidence of emergent phenomena.6 Although ketamine allegedly does not depress the airway reflexes, aspiration has been reported7 so the child should be fasted before the procedure.

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EDITOR.—I sympathise with the need to sedate children who must undergo distressing genital examinations, yet ‘ketamine sedation’ is not as safe as Harari and Netzer suggest and is not necessarily the best technique.

Although ketamine has a good safety record, the potentially disastrous side effects of laryngoscopy and apnoea3 cannot be dismissed just because they are rare. Green et al found that laryngoscopy occurred once in a hundred or so cases,3 but the incidence may be greater if patient selection is poor. Whoever administers ketamine, or indeed any drug which causes loss of consciousness, must be capable of managing the predictable complications. The doctor must have skills in airway management, there must be adequate assistance, tools (artificial airways, laryngoscopes, suction, etc), drugs (suxamethonium, atropine and others), monitors to track the airway and probably most important of all, the judgment that is gained by training and experience. These principles are, one hopes, accepted by all but they may not, I fear, be appreciated by others who use ketamine infrequently.

Taylor and Towsy have demonstrated that radio-opaque dye placed in the pharynx of adults passes easily into the lungs during anaesthesia.9 The airway, therefore, should not be assumed to be secure from aspiration of gastric contents and it is safer to follow sensible principles of fasting. The protective reflexes of the larynx are capable of coping with small volumes of gastric fluid but they are likely to be overwhelmed by large volumes. Gastric contents are difficult to predict and aspiration of solid matter into the lungs is particularly dangerous.4

Airway intake, breathing and oxygenation are usually adequate, but this must not be assumed. Monitoring by pulse oximetry is mandatory for all patients under anaesthesia as a general indicator of hypoxia.4

Anesthesia is managed best by anaesthetists.

Is ketamine a sedative or an anaesthetic? In my view, although it has unique properties, ketamine should be regarded as an anaesthetic agent and who is assumed to function rather than a sedative agent as the dose.

Ketamine has a slow recovery profile and causes nausea and, because it can cause hallucinations, it would not be my first choice drug for a child who is already distressed and confused.11 There are, of course, special indications for ketamine anaesthesia such as for trauma, burns and cardiac cases, and in the intensive care unit, but away from these scenarios ketamine should only be necessary in non-ideal and difficult circumstances.

When modern anaesthesia services are available anaesthetists should be responsible for anaesthesia.

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Dr Harari comments:
The correspondence about our article pertains to the choice of sedative agent rather than the principle of sedation. Our aim was to initiate an awareness of the occasional need for sedation in genital examination, not to champion the virtues of ketamine. The choice of sedating agent and who should administer it are indeed controversial issues.

We chose ketamine in our three children because we are familiar with the drug. We have an ongoing, as yet unpublished study on ketamine administration in children in 150 children to date (age range: 2–200 months, mean: 60, SD: 52), the main indication being muscle biopsy. We have not yet seen any major complications. Drs Rogers and Murdoch state that emergent phenomena are not rare. In our study of 150 children, we have seen no increase in rate their child’s irritability on awakening. Ninety per cent rated their child as not being irritable, 9% had mild irritability, and 1% moderate. Doctors treating the children rated the child’s irritability as either insignificant (93%) or significant such that a benzodiazepine was required (7%). It is likely that the younger the child, the less likely he is to have a distressing hypnopompic event.

Nevertheless we have altered our protocol to give midazolam 0.1 mg/kg on induction and again at the end of the procedure. In addition we now give a smaller induction dose of ketamine of 0.5 mg/kg intravenously.}

Undoubtedly attention should be paid to the child misinterpreting the examination itself as sexual abuse. In our ongoing unpublished study we routinely asked all children aged 3 years if they had any recollection of the procedure for which the ketamine was given. None had any recollection (n = 54). The amnesic properties of ketamine make it unlikely that the child would recall, let alone misinterpret the genital examination. This cannot be said of the unsedated child.

One cannot caval at Dr Sury’s sensible plea for pulse oximetry and fasting before ketamine administration. An more difficult issue however is the need for an anaesthetist to administer the drug. Virtually all sedative agents have serious, even potentially life threatening complications.1 It would be comforting to have an anaesthetist available.
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