CARDIAC LIFE SUPPORT COURSES

SIR,

Applause to the Canadian Anaesthetists' Society's endorsement of continuing education in both basic and advanced cardiopulmonary resuscitation (CPR). Recognition of continued need to remain current in the didactic and performance areas of CPR, a clinical discipline constantly under revision,[1-3] is necessary by all involved with its delivery. There is reason to believe that a need exists in this regard among anaesthetists.[4,5] What distresses us most, however, is a lack of this appreciation by fellow anaesthetists.[6,7] We suggest that they are employing the reasoning of "royalty" when they respond in a negative fashion to CPR training. Was not the Emperor bare when he pretended to wear his new clothes, parading for all his subjects to see?[8] Will not the same critics of CPR training appear as the Emperor when asked to perform according to current accepted standards?

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REACTIONS TO ALFATHESIN

SIR,

As happens so frequently, only prolonged use of an anaesthetic will reveal all undesirable or even dangerous effects which can arise from its use. We have used Alfathesin almost exclusively for induction of anaesthesia for the last eight months in 677 patients, and have encountered the following unusual reactions in three instances, to join the known reactions of involuntary movements, cough, apnoea, respiratory depression, tachycardia, bronchospasm and anaphylactoid reactions. Alfathesin was administered in the minimum dose of 0.05 ml/kg diluted with equal parts of distilled water.

Case 1 (H.B.): This 35-year-old lady underwent dilatation and curettage with cone biopsy of cervix after premedication with meperidine 50 mg and atropine 0.4 mg. Induction was with diluted Alfathesin 6 ml, supplemented for maintenance with 2 ml twice at intervals of five minutes. Following the procedure the patient did not awaken for 90 minutes. Naloxone 0.4 mg given one hour after completion of the procedure resulted in temporary response to verbal command, after which she went back to sleep. A second dose of naloxone half-an-hour later resulted in sudden and complete return of consciousness. Vital signs remained stable throughout the episode.

Case 2 (T.D.): After similar premedication, this 23-year-old patient was anaesthetized for therapeutic abortion. Anaesthesia was induced with 5 ml diluted Alfathesin, followed by two increments of 2 ml each for maintenance. The procedure lasted less than 30 minutes and she responded to verbal commands immediately upon admission to the Recovery Room. Ten minutes later she suddenly developed generalized rigidity followed by opisthotonus and apnoea with rapid development of cyanosis. Diazepam 5 mg intravenously relieved the rigidity, and manual ventilation became possible. The same picture recurred again 10 minutes later and once more after another half-hour, responding well each time to the injection of intravenous diazepam.

Case 3 (C.J.): This 56-year-old lady underwent segmental mastectomy for benign breast tumour. Premedication was the same and anaesthesia was induced with 5 ml of diluted Alfathesin. This resulted in involuntary movements of the left arm and leg. Maintenance of anaesthesia then continued with nitrous oxide and oxygen (5:3) and

alothane 0.5 to 1 per cent. She was allowed to breathe spontaneously. The recovery period was identical to that of Case 2, except that she failed to respond to verbal command on admission to the Recovery Room. She also responded well to diazepam.

There was no hypoxia or hypercarbia during any of the anaesthetic procedures.

Prolonged sleep and rigidity with apnoea and cyanosis should now be added to the list of known reactions to Alfathesin.

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Serum Cholinesterase Activity Following Anaesthesia

Sir,

I was interested to read the article on serum cholinesterase activity following enflurane anaesthesia by Kaniaris, Fassoulaki and Liarmakopoulou in the November 1978 issue of the Canadian Anaesthetists' Society Journal. In a smaller, less well controlled study, I have reached the same conclusion, demonstrating an initial small drop in cholinesterase activity one hour after starting enflurane anaesthesia, with return to normal 24 hours later. In addition to ten patients having enflurane, I also looked at five patients having halothane and five patients having spinal anaesthetics.

The 20 patients, ranging in age between 24 and 83 years were premedicated with diazepam 10–20 mg orally and were undergoing simple urological, orthopaedic and general surgical procedures in whihc the average estimated blood loss was less than 50 ml. Those patients having general anaesthesia were given thiopentone 250–500 mg and anaesthesia was maintained by spontaneous ventilation, through a circle carbon dioxide absorber circuit, with 66 per cent nitrous oxide with oxygen and either 1 to 3 per cent of enflurane or 1 to 2 per cent halothane. Those patients having spinal anaesthetics were given a subarachnoid injection of tetracaine 12–15 mg in 10 per cent dextrose. All patients had an intravenous infusion of lactated Ringer's solution of which, in the first two hours, the enflurane patients received 400 ml, the halothane patients 500 ml and the spinal patients 900 ml. The average length of anaesthetic was 56 minutes with enflurane and 76 minutes with halothane, while in the spinal anaesthetic group the average operating time was 67 minutes. Blood samples were taken preoperatively and at one hour, two hours, four hours and 24 hours after the start of anaesthesia. Serum was obtained by centrifugation of clotted blood and it was then frozen until an estimation of cholinesterase level could be made, which was done using acetyl thiocholine as a substrate.

The results are summarised in the Table.

Thus it appears that halothane and spinal anaesthesia should be considered with enflurane and methoxyflurane[1] as capable of causing a small acute drop in serum cholinesterase activity, which returns to normal within 24 hours.

An older paper by McIntyre and Campbell[2] was primarily concerned with the effects of neostigmine on serum cholinesterase activity during a thiopentone, succinyl choline, nitrous oxide, oxygen, halothane and curare anaesthetic, which was not shown by patients who had fentanyl and droperidol rather than halothane. In Palahnuik's methoxyflurane study, control patients who had thiopentone, succinyl choline, nitrous oxide and oxygen, and curare, showed levels of cholinesterase activity to be slightly depressed initially, but raised above normal at two hours and 24 hours.

Another study[3] suggests that an initial drop in cholinesterase activity is common following

Serum Cholinesterase Activity

	Preop	1 hour	2 hours	4 hours	24 hours
Enflurane (10 patients)	3452	3130	3274	3224	3442
Halothane (5 patients)	2627	2483	2863	2517	2946
Spinals (5 patients)	3431	3287	3210	3173	4363