Correspondence

Alfentanil has no proconvulsive effect during electroconvulsive therapy

To the Editor:

The efficacy of electroconvulsive therapy (ECT) relates to seizure duration.[1] We explored whether alfentanil has an effect on seizure duration during anesthesia for ECT. In addition, we investigated the effects of alfentanil on the cardiovascular response during ECT, and on the duration of apnea. Etomidate was used as the anesthetic agent because it has the least effect on seizure duration compared with methohexital, propofol and thiopentone.[2,3]

After approval from the Hospital's Ethics Committee, 21 consecutive patients were studied. In the second and subsequent five sessions patients received *iv* administration of metoclopramide 10 mg, glycopyrrolate 0.002–0.003 mg·kg^{-1}, a bolus injection of either alfentanil (0.010–0.015 mg·kg^{-1}) or placebo (0.9% NaCl) in identical volumes and etomidate 0.2–0.3 mg·kg^{-1} followed by succinylcholine 0.5–1.0 mg·kg^{-1}. The administration of alfentanil or placebo was done in a double- blind cross-over fashion with four sequences of six periods with two treatments. Blinded syringes were prepared by the pharmacy according to a computer-generated randomization list. Seizure duration was recorded by a two-channel electroencephalograph (EEG). Systolic and diastolic blood pressure (SBP, DBP), mean arterial pressure (MAP) and heart rate (HR) were monitored from arrival in the ECT suite until the patient started breathing adequately. Before the ECT, measurements were made once per minute and continuously thereafter.

Differences in hemodynamic variables, seizure- and apnea duration between the alfentanil and placebo sessions were estimated and tested using mixed model analysis of variance. Blood pressure and HR one hour before each treatment session was taken as covariate.

There was no significant difference in mean seizure duration as measured with EEG between alfentanil and placebo sessions (placebo = 86 sec, alfentanil = 80 sec).

Immediately before and after the stimulus the means of DBP, MAP and HR but not SBP were significantly lower after alfentanil than after placebo (Table). Apnea duration in the alfentanil sessions was on average 73 sec longer than in the placebo sessions (standard error = 17.5, $P = 0.0001$). Alfentanil itself does not lengthen seizure duration in combination with etomidate; it can be used to reduce the dosage of

TABLE Effect of alfentanil compared with placebo on variables measured before and after the electroconvulsive therapy stimulus; placebo and alfentanil values are baseline-adjusted means estimated over three periods using mixed model ANOVA

	Before the stimulus					*After the stimulus*				
Variable	*Placebo*	*Alfentanil*	*Effect*	*SE of effect*	*P*	*Placebo*	*Alfentanil*	*Effect*	*SE of effect*	*P*
Heart rate (beat·min^{-1})	89.5	85.2	-4.29	1.43	0.0036	103.6	95.5	-8.08	2.42	0.0013
Systolic arterial pressure (mmHg)	131.1	127.9	-3.15	1.70	0.0665	156.2	151.2	-5.04	2.45	0.0428
Diastolic arterial pressure (mmHg)	80.6	76.9	-3.70	1.15	0.0019	91.1	87.0	-4.13	1.63	0.0134
Mean arterial pressure (mmHg)	97.5	93.9	-3.67	1.26	0.0046	112.8	108.3	-4.48	1.85	0.0176

SE = standard error.

methohexital and propofol in order to prevent the shortening effects on seizures of both anesthetics.[4] The small but significant effect of alfentanil on the cardiovascular response, without effect on seizure duration during ECT, could be of benefit for high risk patients with cardiovascular diseases.[5]

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Delayed diagnosis of latex allergy

To the Editor:
We present an unusual case of latex allergy in a patient who experienced three major episodes of bronchospasm and hypotension under three different surgical settings before the actual diagnosis of latex allergy was established.

A 64-yr-old, 80 kg, 163 cm female with cervical spondylitic myelopathy presented for cervical spine surgery. She had had left knee arthroplasty under spinal anesthesia three years prior to the present surgery. In the recovery room, 500 mL of salvaged blood were transfused and she developed wheezing followed by severe hypotension and tachycardia. Supportive measures included supplemental oxygen, *iv* fluids, boluses of ephedrine and phenylephrine and dopamine infusion. This episode was attributed to a transfusion reaction from the wound drain.[1]

She came for revision knee arthroplasty two years later, again under regional anesthesia. Approximately ten minutes after tourniquet deflation, she developed respiratory distress and hypotension requiring boluses of ephedrine and phenylephrine. She was intubated and mechanical ventilation was instituted. Oropharyngeal edema and poor lung compliance were noted, both improving with epinephrine. The episode was attributed to venous embolism.[2,3]

The most recent surgery was cervical spine decompression and fusion. About two hours into the procedure, the patient developed bronchospasm, hypoxemia and severe hypotension. At this stage we suspected an anaphylactic reaction to latex. After the administration of epinephrine, hydrocortisone and diphenhydramine, the hemodynamic status improved. The following day she had a skin prick test that showed a positive result for latex. She also had a radioallergosorbant test that showed a high positive titer of 7.47 $KU \cdot L^{-1}$ (normal range: < 0.35 $KU \cdot L^{-1}$).

Several features delayed the identification of latex allergy in this patient. In the first episode the patient seemed to have anaphylaxis following wound blood transfusion. In retrospect, application of the tourniquet might have prevented the systemic absorption of latex proteins. Transfusion of blood from the surgical drain probably resulted in the administration of latex proteins. During the second episode signs and symptoms appeared immediately after tourniquet release. Again, in retrospect, release of the tourniquet might have resulted in a systemic bolus of latex proteins. During the third episode the bronchospasm and hypotension began approximately 30 min after incision. The sequence of events was now clearer, pointing towards anaphylaxis[4] which was later proven to be due to latex.

We conclude that clinical events can delay the diagnosis of latex allergy. Considering the increasing incidence of latex allergy it might be worth considering preoperative skin testing in any patient who suffered a major episode of perioperative hypotension and hypoxemia in the past.

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