recovery room following elective urinary diversion and formation of ileal conduit. A thoracic epidural was sited at the T10/11 vertebral space using an 18 G Tuohy needle in the sitting position. Loss of resistance to saline was elicited at 5 cm and the catheter passed with ease. A test dose of levobupivacaine 0.5% (4 ml) was followed by a continuous infusion of levobupivacaine 0.125% with fentanyl 2 μg ml⁻¹ at 8 ml h⁻¹. General anaesthesia was then induced. During surgery, various degrees of Trendelenburg positioning with lateral tilt to facilitate operative access to deep pelvic structures were requested. On transfer to the recovery room the patient was noted to have developed a well-demarcated hemifacial flushing with sweating involving her right side. Sensory blockade involving T4–L1 dermatomes was identified with ethyl chloride. No other neurological deficit was noted. This colour change last approximately 8 h and resolved without consequence. The epidural continued for a further 24 h.

It seems likely that intraoperative positioning allowed sufficient rostral/unilateral spread of local anaesthetic agents to involve preganglionic fibres arising from the contralateral upper thoracic (T2–4) sympathetic branches. Absence of sympathetic oculomotor signs (ptosis or meiosis) suggests no involvement of T1. Patient positioning during prolonged surgery may be a risk factor during the use of regional anaesthesia.

S. M. Crawley
Dunfermline, Scotland
E-mail: sicrawley@doctors.org.uk

do:10.1093/bja/aeh039

Use of the bispectral index (BIS) monitor to aid in the diagnosis of pseudoseizures

Editor—Pseudoseizures can be difficult to diagnose, especially in a patient with a history of epilepsy. Generalized tonic-clonic convulsions, followed by a postictal period of drowsiness can appear extremely convincing to even the trained eye. Anti-convulsant medication is often given and a critical care referral may be made if seizures continue. True epileptic seizure activity can only be definitively diagnosed by recording a 2-fold rise in serum prolactin levels from baseline at 20 min post seizure.¹ This may not be feasible in practice, as a baseline level can only be taken after at least an hour of seizure-free activity. An alternative is real-time EEG monitoring by a trained technician, again, for most clinicians, this is not possible. We therefore must rely on clinical acumen.

We recently were asked to review a 21-yr-old female, with a history of epilepsy who had presented to our district general hospital 10 h previously with seizures. She had ≥20 tonic-clonic seizures, lasting 5–10 min since admission to the acute medical assessment unit. Treatment had included lorazepam 4 mg and diazepam 10 mg i.v. She was about to receive a loading dose of phenytoin 15 mg kg⁻¹. Her Glasgow Coma Score (GCS) had been 3 for the previous 2–3 h, and although stable from a cardiorespiratory point of view, the referring physician felt, not unreasonably, that a critical care admission was warranted.

D. Hegarty
Cork, Ireland
E-mail: dominichegarty@hotmail.com

4 Wilder-Smith OH, Tassonyi E, Senly C, et al. Surgical pain is followed not only by spinal sensitisation but also by supraspinal antinociception. Br J Anaesth 1996; 76: 816–21
do:10.1093/bja/ael040
It was noted that she had been ventilated twice in the last 6 months in our intensive care unit to aid control of seizure activity.

The last note from her neurologist suggested that not all of her seizures could be explained by epilepsy alone. It was noted that her compliance with medication was judged to be poor.

We were informed that she had suffered another short seizure some 5 min previously. On examination the GCS was 5, heart rate 90 beats min⁻¹, arterial pressure 116/71 mm Hg and oxygen saturation 99%. She was placed in the recovery position and a size four oropharyngeal airway inserted. Oxygen was continued via reservoir mask. Further observation of the patient saw an effort on her behalf to reposition or partially remove the airway with her tongue.

Clinically, we felt that her symptoms and signs did not correlate with true epileptic seizures. Despite encouragement for the patient to open her eyes and respond, she remained in the same state. After deliberation on further management, it was felt that bispectral index (BIS) monitoring (Aspect Medical Systems) might support our clinical diagnosis. After applying electrodes to the forehead immediate readings gave a BIS number in the mid-eighties, and as the signal quality improved the number rose, stabilizing between 92 and 95. With a BIS number in the nineties, we felt this was unlikely to be a postictal state, and hence the seizures may well be pseudoseizures. It was therefore decided, between both teams that the patient would remain on the admissions ward, receive i.v. phenytoin and have no further sedative medication. It was also felt that it was inappropriate to continue with BIS monitoring outside theatres or critical care. Despite further encouragement to open her eyes, she continued in the same state of unresponsiveness. However, 2 h later, after no further seizures, she opened her eyes, asked for a phone and self-discharged contrary to medical advice.

Although BIS monitoring does not diagnose pseudoseizure activity, we found it a useful supplement to a clinical diagnosis. The BIS monitor uses an EEG reading from a normal brainwave pattern to derive its number, and its use during a real seizure could not be advised.

BIS monitoring during electroconvulsive therapy has been described, and a fall in the BIS number from 54 (±13) post anaesthesia to 30 (±8) in the immediate postictal period was seen. Awakening occurred at a mean BIS number of 45 (±13) (range 29–81). It would therefore seem safe to assume that a BIS reading in the mid-1990s would indicate a state of wakefulness.

Pseudoseizures are a psychiatric condition and not neurological, and inappropriate treatment with tracheal intubation increases unnecessarily the risk to the patient.

B. Donnelly*
V. Boyd
Rotherham, UK
*E-mail: brian.donnelly1@virgin.net

Editor—We report a case of failed intubation due to unforeseen epiglottic oedema in a patient with no symptoms or signs of airway obstruction. Reports associating lap-shoulder seatbelts with blunt laryngeal trauma exist, however these patients presented with airway symptoms and prompt diagnosis was made on admission. Severe oedema without airway symptoms have not previously been reported.

A 24-yr-old male dancer was involved in a high velocity frontal-impact road traffic accident between two cars. The patient was restrained by a lap-shoulder seatbelt. On initial assessment, the patient was alert and orientated with a Glasgow Coma Score of 15, speaking in full sentences and without stridor. Oxygen saturation was 100% on 10 litres of oxygen by facemask and there was no tracheal deviation. Linear ecchymosis across the right shoulder (probably caused by the seatbelt) was observed but he reported no neck pain. Lower limb X-rays revealed a fractured right femoral shaft, fractured right acetabulum and a compound fracture of the right patella. Sixteen hours following the trauma the patient was taken to theatre for femoral nailing. Preoperative airway assessment revealed no abnormal findings.

After preoxygenation a modified rapid sequence induction was initiated using fentanyl, propofol and succinylcholine. Direct laryngoscopy using a size 4 Macintosh blade was performed. The tracheal opening could not be identified due to massive oedema of the right side of the epiglottis and larynx. Fibre-optic intubation through the mouth was attempted while the lungs were ventilated with sevoflurane in oxygen. Tracheal visualization was still not possible due to the oedema. To avoid any risk of aggravating the oedema by direct mechanical manipulation, neither a classical nor intubating laryngeal mask was used. Hydrocortisone was given and the patient was allowed to recover. Cardiovascular variables were stable, the lungs were easily ventilated and oxygen saturation was maintained above 95% throughout the procedure.

In order to secure the airway, awake fibre-optic nasal intubation was performed using topical xylocaine and a size 6 tube. During the procedure cystic oedema affecting the supra-glottic area was noted. A CT scan of the larynx performed before transfer to ITU for observation overnight.

Correspondence

2 Nishihara F, Saito S. Pre-ictal Bispectral Index has a positive correlation with seizure duration during electroconvulsive therapy. Anesth Analg 2002; 94: 1249–52
doi:10.1093/bja/ael041