Reversion to sinus rhythm after induction of general anaesthesia

Sir,

We wish to report a case where a patient scheduled for DC cardioversion for atrial fibrillation spontaneously changed to sinus rhythm after induction of general anaesthesia.

A 76-year-old man underwent coronary artery bypass grafting and aortic valve replacement. On the fourth postoperative day he went into atrial fibrillation with a ventricular rate of 160 beats per minute. His serum potassium was 4.0 mmol/litre so he was treated with oral potassium and intravenous amiodarone; 24 hours after the loading dose of amiodarone the patient was still in atrial fibrillation and was scheduled for DC cardioversion. General anaesthesia was induced with propofol 50 mg and approximately 2 minutes later the patient spontaneously reverted to sinus rhythm. The patient remained in sinus rhythm and was returned to the ward.

It has been suggested that propofol general anaesthesia attenuates baroreceptor responses and may affect atrioventricular conduction. This is demonstrated by bradycardia, reduced heart rate variability and reports of suppression of tachyarrhythmias seen under propofol general anaesthesia (Warpechowski et al, 2006). Propofol reduces sympathetic and parasympathetic tone, but the reduction in parasympathetic tone is less marked than the reduction in sympathetic tone, resulting in parasympathetic dominance (Deutschman et al, 1994). In this case parasympathetic dominance secondary to the propofol-induced general anaesthesia is the most likely reason for this patient spontaneously changing back to sinus rhythm.

Alan Ashworth
Anaesthetic Registrar
John Kneeshaw
Consultant Cardiothoracic Anaesthetist
Department of Anaesthesia and Critical Care
Papworth Hospital
Papworth Everard
Cambridge CB23 3RE

Deutschman CS, Harris AP, Fleisher LA (1994) Changes in heart rate variability under propofol anaesthesia: A possible explanation for propofol-induced bradycardia. *Anesth Analg* **79:** 373–7

Warpechowski P, Lima GG, Medeiros M et al (2006) Randomized study of propofol effect on electrophysiological properties of the atrioventricular node in patients with nodal re-entrant tachycardia. *Pacing Clin Electrophysiol* **29:** 1375–82

Psychogenic absence seizure following tooth extraction

Sir,

We would like to highlight a case of local anaesthetic surgery precipitating a psychogenic absence seizure – a type of paroxysmal episode that can be induced by a stressful event.

A 46-year-old woman from Sierra Leone had a tooth extracted without incident in the Maxillofacial Department at St George's Hospital, London. Her medical history contained a letter describing a history of physical abuse originating from her time living in Sierra Leone.

At the point when the patient was about to leave post surgery, she complained of dizziness, sat down, stopped moving and became rapidly unresponsive to all questions and commands. Her basic observations were recorded as within the normal ranges. After 10 minutes with no improvement, she was transferred to the accident and emergency department.

In accident and emergency the patient was provisionally diagnosed as experiencing an absence seizure associated with her stressful surgery. Eight hours after the surgery she began walking around the department and started to communicate, initially by explaining her need to use the toilet. When the doctors were happy that she had recovered completely she was discharged.

Early recognition and appropriate treatment of these seizures can prevent significant iatrogenic damage. It is important that all doctors recognize the precipitating factors for such an event. This could be a history of dissociative disorders or a history of abuse. If a seizure such as this occurs, it is important that medical advice is sought.

B Collard
Staff Grade Oral and Maxillofacial Surgeon
St George's Hospital
London SW17 0QT
R Patel
Community Dentist
Community Dental Centre
Mottingham
K Jenkins
Psychotherapist
Mitcham Junction
Surrey
K Soni
Medical Student
St Georges Hospital
London

Further reading

Katona C, Cooper C, Robertson M (2008) *Psychiatry at a Glance.* 4th edn. Wiley Blackwell, Chichester

Lund C, Haraldsen I, Lossius MI, Bjørnaes H, Lossius R, Nakken KO (2009) Psychogenic non-epileptic seizures. *Tidsskr Nor Laegeforen* **129**(22): 2348–51