Why a brain tumour was originally thought to be hyperventilation related to anxiety

Nurses deal with new and challenging situations in their day-to-day practice. Case studies are a way of sharing these experiences and offering possible solutions

PATIENT PRESENTATION
At 5.30am, a 25-year-old man, Ben Smith*, was brought into A&E by ambulance, accompanied by his girlfriend. The ambulance had been called because he had experienced seizures. The ambulance crew had found him to be drowsy and distracted. His girlfriend said that in the middle of a conversation, he suddenly appeared flushed, his eyes rolled back and he started “shaking all over for several minutes”.
I assessed and triaged Mr Smith. He was alert and orientated, with a Glasgow coma score of 15/15, but was unable to recall any events preceding the episode. He had no evidence of tongue biting or incontinence and no complaints of headache, dizziness or nausea. He denied having taken any substances and said he had consumed only a small amount of alcohol.
Additional history from Mr Smith’s girlfriend revealed that earlier that night he had experienced episodes of hyperventilation. The ambulance service had attended to him but did not take him to hospital.
During assessment, he appeared to become increasingly irritable and, while he seemed somewhat vacant when questioned about events, Mr Smith became quite distressed and hyperventilated.
His pulse was 84bpm, blood pressure 151/89mmHg and his bedside glucose monitoring was 9.4mmol/L.

Management
I gave Mr Smith a paper bag to calm his breathing and to reassure him. This seemed to decrease his respiratory rate and level of anxiety. At this point, I handed over his care to the nurse who was assigned to his cubicle.
During the remainder of my shift, Mr Smith had no more seizures or hyperventilating episodes. Blood and urine tests were normal.
A doctor’s assessment revealed a fit and healthy patient before this incident with no recent illness or related neurological symptoms or signs. The doctor concluded that Mr Smith had experienced an anxiety related episode of hyperventilation followed by an unresponsive episode during which he became rigid and may have had a short seizure lasting one minute with a short postictal period.

In our department, patients presenting with a first seizure are normally seen urgently in the neurology outpatients department (NICE, 2004). After discussion with senior doctors, it was decided that Mr Smith should be transferred to the clinical decisions unit (CDU) while he awaited a CT scan.
By my next shift, Mr Smith had been moved to a neurological ward. His CT scan showed a large tumour involving the frontal, temporal and parietal regions of the brain with oedema; an MRI was recommended. He was later diagnosed with a grade 2 astrocytoma, was discharged on carbamazepine and awaited neurosurgical follow-up.

Astrocytomas are uncommon primary tumours of the brain that mainly affect young adults and present with seizures. Grade 2 astrocytomas are considered low grade but can recur and may eventually become malignant. Some tumours may be amenable to surgery and radiotherapy and the median survival is five years (Buckner et al, 2007).
The diagnosis of a primary brain tumour had initially been obscured by the patient’s presentation with recurrent hyperventilation. My initial impression was of a healthy young man who was stressed and hyperventilating, and this initially distracted me from focusing on possible underlying pathology.
On reflection, my attitude towards a young, stressed, hyperventilating patient at 5am may not have been the same as that to someone having a seizure due to a primary brain tumour. It was difficult not to assume that the patient’s clinical picture was stress related. This, however, did not affect the type or level of treatment I gave him – it only altered my way of thinking about what the eventual diagnosis would be.

Lessons learnt
It is important to highlight the significance of Mr Smith’s amnesia and the information given to the emergency services.
This case needed an open minded approach and a willingness to develop a diagnosis based on a presentation that initially seemed related to an emotional mind state.
My thoughts and feelings should have been based on my reaction to the patient when he presented. He was distressed because he could not recall events before the episode and anxious about being in A&E. Instead of seeing the importance of this, I seemed to focus on how vacant and stressed he was. I should have taken more time to understand what the underlying problem could have been as I was too focused on the bizarre presentation of symptoms and therefore making assumptions.

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REFERENCES

WRITING CASE STUDIES
• Have you been involved in a new treatment or therapy?
• Have you been involved in a situation that has made you think about or change your practice?
If you would like to share your experience email your suggested case study to ntl@emap.com, putting ‘Case study’ in the subject box.