EMERGENCY CASEBOOK

Acute neck pain, an atypical presentation of subarachnoid haemorrhage

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Subarachnoid haemorrhage can be a massively debilitating condition with long-term repercussions. The "classic" presentation of sudden-onset severe headache normally raises suspicions. However, if the presentation is atypical, the diagnosis may be missed. We report on a 52-year-old man who presented with a 1-day history of progressively worsening right-sided neck pain spreading to the chest with associated symptoms of autonomic dysfunction. After initial stabilisation, the patient's Glasgow Coma Scale (GCS) score declined, with subsequent CT scan showing an extensive subarachnoid haemorrhage.

A 52-year-old Caucasian man was brought to the emergency department by ambulance with apparent severe chest pain. However, on closer questioning, the patient gave a history of a dull ache starting behind his right ear, which then radiated down through the neck and progressively worsened in severity, spreading also to the chest and shoulder. There was no history of headache, neck stiffness or photophobia. He had no other significant medical history of note, although his father had died of a myocardial infarction at the age of 65 years.

At the scene, the ambulance crew noted him to be pale and sweating, with a blood pressure of 155/102 mm Hg and a pulse

97 bpm. Suspecting a cardiac event, he was given aspirin by the crew. On arrival at the emergency department, the patient was extremely pale and sweating profusely. He reported feeling nauseated and indeed vomited twice. His blood pressure was 169/100 mm Hg on the left and 170/100 mm Hg on the right, pulse of 95 bpm, temperature 36.5°C and blood sugar levels of 5.6. An ECG showed a right bundle branch block morphology. The patient was resuscitated, requiring morphine to settle the pain. Examination was otherwise normal, and in particular there was no evidence of focal neurology. This GCS score remained at 15 throughout the episode, with pupils being equal and reactive.

A portable chest x ray was suggestive of a widened mediastinum. Subsequent CT of the head did not reveal any intracranial pathology, and a chest CT was reported as showing no obvious evidence of dissection. Approximately 11 h after admission, the patient suddenly became unresponsive. The GCS was 11 on initial assessment, with no focal neurology, but then fluctuated between 3 and 14 over the next few hours. A repeat CT scan showed an extensive subarachnoid bleed with a communicating hydrocephalus (fig 1).

The patient was subsequently transferred to the local neurosurgical unit, where angiography revealed an arteriovenous malformation in the right posterior fossa, which was

Abbreviation: GCS, Glasgow Coma Scale

Figure 1 CT scan showing an extensive subarachnoid bleed with a communicating hydrocephalus.

successfully embolised. Following this, the patient made a slow but gradual recovery.

DISCUSSION

Subarachnoid haemorrhage is a potential cause of significant morbidity and mortality.^{1,2} Classical presentation is with symptoms of sudden onset of a severe headache often likened to “an axe blow to the back of the head”. The classic “thunderclap” headache may be secondary to a wide range of causes (Schwedt TJ *et al*).³ It is well known that “sentinel leaks” may occur before aneurysm rupture in 20–50% of patients.^{1,3} Some patients may also be misdiagnosed with more common disorders such as migraine, cluster headaches, tension headaches, sinus-related headache or cervical-related strain.^{1,4} In this context, subarachnoid haemorrhage may be viewed as a clinical spectrum showing a wide variation in terms of size of bleed and clinical presentation.

Symptoms from more minor bleeds may be due to the dissemination of blood within cerebrospinal fluid leading to an aseptic meningitis and signs of meningism.^{1,5} This does not always include headache and neck stiffness, and may in fact present as neck discomfort or back pain.¹ In the case presented, the absence of classical features such as headache, focal neurological signs, impaired consciousness or bleeding on initial CT scan ultimately led to a delay in diagnosis.

Review of the literature shows a number of case reports of atypical presentations for subarachnoid haemorrhage; however, only one report lists neck pain in combination with backache as a presenting feature.¹ In this case, the symptom of progressively worsening neck pain was most likely due to local meningeal irritation by blood in the posterior fossa. The other features such as sweating, nausea, ECG changes and raised blood pressure were autonomic effects secondary to mass catecholamine release.² The appearance of these non-specific signs leading to mismatch of clinical picture with otherwise innocuous symptoms pointed to a more serious underlying pathology. As such, if the patient looks clinically unwell, then it

Learning points

- It is worth considering subarachnoid haemorrhage in a patient who presents with neck or back pain and appears clinically unwell once other causes are ruled out.
- Review of atypical presentations in the literature suggests that subarachnoid haemorrhage has a potentially wider spectrum of presentation than previously appreciated.

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