



# Failure to diagnose: subarachnoid haemorrhage

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Case histories are based on actual medical negligence claims, however certain facts have been omitted or changed by the author to ensure the anonymity of the parties involved.

This article examines the diagnosis of subarachnoid haemorrhage (SAH), a rare but serious cause of headache in general practice. On occasion, the diagnosis of SAH is missed or delayed, usually because the condition was not considered in the differential diagnosis.

## Case history

At about midday on Friday 14 June, Mr Warner, a 38 year old high school teacher, attended his general practitioner complaining of the sudden onset of a severe occipital headache. The patient told Dr McCarthy that the headache 'struck him like a thunder clap' while he was teaching earlier that morning. He reported that the headache was initially severe but it had now almost gone. His wife had insisted that he see a doctor. Dr McCarthy briefly reviewed the patient's medical records and noted a past history of hypertension. Physical examination revealed blood pressure of 145/80. There was no neck stiffness. Neurological examination was normal and there was no evidence of papilloedema.

In view of the patient's history, the GP was concerned about the possibility of a subarachnoid haemorrhage (SAH). The GP decided to refer the patient to the local radiology practice for a cerebral computerised tomography (CT) scan. Dr McCarthy rang the radiology practice to make an urgent appointment that afternoon. He gave the patient a referral and asked him to phone the practice for the test result. Dr McCarthy then proceeded to see the remainder of the patients who were booked in for the afternoon. By the end of the day, the urgent referral of Mr Warner for a CT scan had slipped the GP's mind. At 5 pm, Dr McCarthy switched the phone over to the deputising service and set off for a weekend away with his family. The CT scan result had been faxed to the surgery at about 3.30 pm. The receptionist had

placed the result in the 'results in-tray' but she had not informed the GP about the receipt of the report. Dr McCarthy had not had time to review the in-tray before he left for the weekend. The patient rang the surgery at about 5.30 pm. The recorded message stated that the practice was closed until Monday. The message advised callers that they should contact the locum service or attend the local hospital if they had an urgent problem. Because the headache had now completely resolved, the patient decided to contact Dr McCarthy on Monday morning to obtain the result of the CT scan.

In the early hours of Sunday morning, the patient was woken from his sleep by another severe headache. His wife was very concerned about his condition and called an ambulance. By the time the ambulance arrived, the patient had become confused. Subsequent investigations in hospital revealed a moderate SAH and cerebral angiography confirmed the presence of an aneurysm in an anterior communicating artery.

When Dr McCarthy arrived at the practice at 8 am on Monday, he noted the CT scan result in the in-tray. He was horrified to find that the scan revealed a SAH. He immediately rang the patient's home. The patient's wife said that her husband had been hospitalised after collapsing on Sunday morning. The wife expressed surprise that Dr McCarthy had not detected any problem when her husband had consulted him on the Friday afternoon.

## Medicolegal issues

Dr McCarthy felt distraught about the failure to inform the patient of the results of the CT scan on the Friday. He contacted the hospital and spoke to the neurosurgical registrar who advised him that Mr Warner was being taken to theatre later that morning to have the aneurysm clipped. Dr McCarthy asked the registrar to keep him informed about the patient's clinical progress. He also told the registrar that a CT scan had been performed on 14 June that had revealed a SAH. The GP asked if this scan was required to assist with the clinical management of the patient. The registrar told Dr McCarthy that he did not think this information would alter the management but he would discuss it with the neurosurgeon. Dr McCarthy also rang his medical defence organisation for advice and support.

Later that day, the neurosurgeon rang Dr McCarthy to let him know that the surgery had proceeded uneventfully and he was hopeful that the patient would make a good functional recovery. Dr McCarthy asked the neurosurgeon to let him know when he felt the patient's condition was stable enough for him to discuss the issue of the failure to inform the patient about the results of the CT scan. A meeting was subsequently arranged with the patient, his wife and the GP. Dr McCarthy and the patient discussed the matter in a full and frank manner. The GP also outlined the steps he had taken in his practice to try and ensure that a similar situation did not arise in future. Fortunately, in this case, the patient made a good recovery. The neurosurgeon's view was that the delay in diagnosis of the SAH had not affected the patient's ultimate clinical outcome.

## Discussion

No human or system is error free. Despite the best efforts of GPs and their staff, errors and adverse events will occur from time to time. An adverse incident is an emotionally charged event for all parties.

In this situation, the prime concern is to support the patient. Any investigation and review of potential negligence can be undertaken when the crisis has subsided.

Adverse incidents involving a 'failure to diagnose' are not uncommon in general practice. Underlying causes of these incidents include failure to:

- consider the possibility of the final diagnosis or maintain a high index of suspicion for the condition
- obtain a complete or adequate history
- perform an appropriate physical examination
- order and/or follow up test results, investigations and referrals.

In this case, the GP did consider the possibility of SAH. However, there was a breakdown in communication and practice systems that resulted in the patient not being informed of the CT scan result in a timely manner.

## Risk management strategies

Headache is a relatively common presentation in general practice. The vast majority of headaches are benign and self limiting. Murtagh states: 'The diagnosis of serious causes of headache depends on a careful history, a high index of suspicion of the 'different' presentations and the judicious use of CT scanning'.<sup>1</sup>

Clinical features of SAH include:

- sudden onset headache (moderate to intense severity)
- occipital location
- localised at first, then generalised
- pain and stiffness of the neck follows
- vomiting and loss of consciousness often follow
- Kernig's sign positive
- neurological deficit may include
  - hemiplegia (if intracerebral bleed)
  - third nerve palsy (partial or complete).<sup>1</sup>

About one-third of patients experience a 'sentinel' headache (a warning leak) in the hours to days before the major bleed. Computerised tomography scanning is the investigation of choice and should be performed in the first few hours. Once the

diagnosis of SAH has been made, urgent neurosurgical referral and management is required. If a GP has a high index of suspicion of SAH, the patient should be immediately referred to hospital for further review and investigation.

### Summary of important points

- The diagnosis of SAH demands a high index of suspicion for the condition.
- The clinical hallmark of SAH is a history of unusually severe headache – classically the onset of headache is within a split second.
- The patient with SAH requires urgent neurosurgical referral and management.

Conflict of interest: none.

### Reference

1. Murtagh J. General practice. 3rd ed. Sydney: McGraw Hill, 2003.

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