



(CASE REPORT)



MISSED SUBDURAL HAEMATOMA IN AN ELDERLY PATIENT INITIALLY DIAGNOSED WITH MILD TRAUMATIC BRAIN INJURY: A CASE REPORT

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ABSTRACT

Subdural haematoma is an important cause of morbidity and mortality among elderly patients and may be difficult to recognize following apparently minor head trauma. Clinical presentation can be subtle, and significant intracranial pathology may occur despite a normal level of consciousness. We report the case of a 79-year-old man who presented with a two-week history of progressively worsening headache following an initial diagnosis of mild traumatic brain injury. On reassessment, his Glasgow Coma Scale score was 15/15. Cranial computed tomography subsequently demonstrated a left cerebral hemisphere subacute subdural haematoma associated with contralateral midline shift and a right cerebral hemisphere acute-on-chronic subdural haematoma. The patient underwent surgical evacuation through burr-hole drainage and subsequently achieved full recovery. This case highlights the importance of maintaining a high index of suspicion for subdural haematoma in elderly patients with persistent or worsening symptoms after head trauma, even when the patient has a normal GCS. Early neuro-imaging and timely neurosurgical intervention are important in preventing neurological deterioration and improving outcomes.

Keywords: Subdural Haematoma; Elderly; Mild Traumatic Brain Injury; Missed Diagnosis; Acute-On-Chronic Subdural Haematoma; Midline Shift; Burr-Hole Drainage.

1 INTRODUCTION

Subdural haematoma (SDH) is a collection of blood between the dura mater and arachnoid membrane and is an important complication of traumatic brain injury. It is particularly relevant in elderly patients because age-related cerebral atrophy increases the vulnerability of bridging veins to tearing following relatively minor trauma. Chronic subdural haematoma predominantly affects older adults and may occur even when a clear history of significant head trauma is absent. (1)

The clinical presentation of subdural haematoma varies according to the age and size of the haematoma, associated mass effect, and the patient's underlying cerebral reserve. Elderly patients may present with headache, confusion, gait disturbance, cognitive changes, focal neurological deficits, or progressive functional decline. Importantly, neurological findings may initially be subtle, and the patient may remain fully conscious despite having a significant intracranial collection. (2)

Acute-on-chronic subdural haematoma represents fresh bleeding into a pre-existing chronic subdural collection. The acute component can increase the volume of the collection and produce additional mass effect. When a subdural collection causes displacement of intracranial structures, including midline shift, the condition may become clinically significant and require urgent specialist assessment.

Delayed or missed diagnosis remains an important clinical concern in elderly patients with persistent symptoms following mild traumatic brain injury. The presence of a normal GCS should therefore not be considered sufficient to exclude significant intracranial pathology when symptoms persist or worsen.

We present a case of a 79-year-old man with a two-week history of worsening headache who had initially been diagnosed with mild traumatic brain injury. Subsequent CT imaging revealed bilateral subdural haematomas of different stages, including a left subacute subdural haematoma with contralateral midline shift and a right acute-on-chronic subdural haematoma. The patient underwent burr-hole evacuation and achieved full recovery.

2 CASE SUMMARY

A 79-year-old man presented with a history of worsening headache for two weeks. Prior to the current assessment, he had been evaluated following traumatic brain injury and was initially diagnosed with mild traumatic brain injury without brain CT imaging due to mild symptoms he had at presentation.

Over the subsequent two weeks, the headache progressively worsened, prompting further clinical assessment and neuroimaging. At reassessment, the patient was conscious and had a Glasgow Coma Scale score of 15/15.

Despite the preserved level of consciousness, the persistence and worsening of headache in this elderly patient raised concern for an underlying intracranial complication. A cranial computed tomography (CT) scan was therefore performed at our hospital.

The CT scan demonstrated two significant intracranial abnormalities:

Left cerebral hemisphere subacute subdural haematoma associated with contralateral midline shift.

Right cerebral hemisphere acute-on-chronic subdural haematoma.

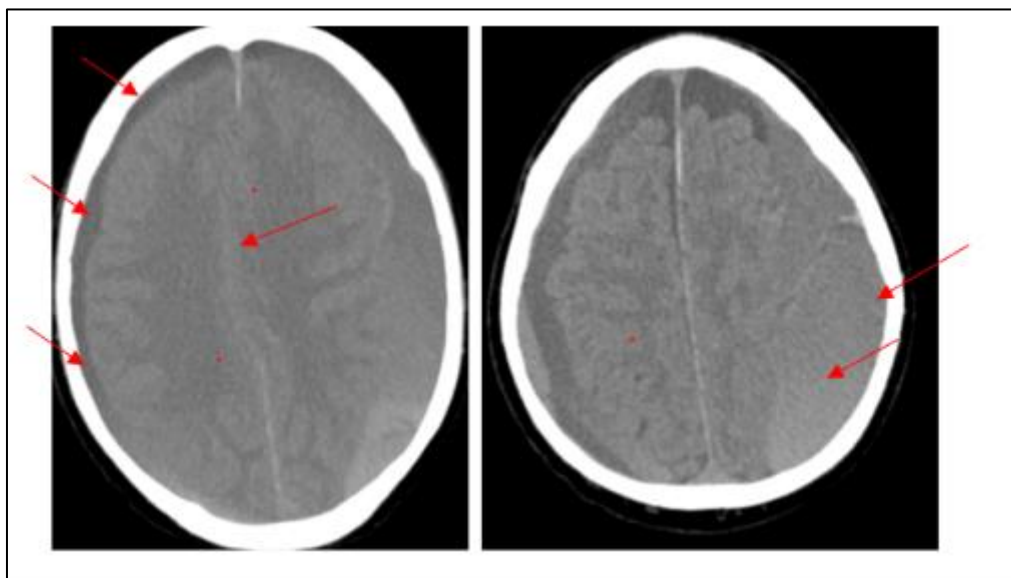


Figure 1: Brain CT scan images of the case in discussion; the chronic subdural hematoma on the Left image with midline shift, subacute subdural hematoma Right image.

The findings demonstrated bilateral subdural collections at different stages of evolution. The left-sided subacute collection was associated with mass effect resulting in displacement of the midline cerebral structures toward the contralateral side. The right-sided collection had both chronic and acute components, indicating recent bleeding into a pre-existing subdural collection.

The radiological findings established the diagnosis of significant bilateral subdural haematoma despite the patient's preserved GCS.

Following neurosurgical assessment, the patient underwent burr-hole evacuation of the subdural haematoma. The procedure was successfully completed, and the patient demonstrated progressive clinical improvement.

3 DISCUSSION

This case illustrates the diagnostic challenge posed by subdural haematoma in elderly patients. The patient was 79 years old and presented with progressively worsening headache over two weeks after an initial diagnosis of mild traumatic brain injury. Despite the significant intracranial abnormalities demonstrated on CT, his GCS remained 15/15.

Age is an important risk factor for subdural haematoma. Cerebral atrophy associated with ageing increases the distance between the brain and dura and places increased tension on bridging veins. Consequently, minor trauma may result in venous injury and subsequent subdural bleeding. Chronic subdural haematoma is predominantly a disease of older adults, and a history of direct head trauma may be absent in a substantial proportion of patients. (4)

The initial diagnosis of mild traumatic brain injury in this patient demonstrates the importance of continued clinical vigilance following head trauma. A mild initial presentation does not necessarily exclude an evolving intracranial complication. In particular, persistent or progressively worsening headache should prompt reassessment and consideration of intracranial haemorrhage.

One of the important features of this case was the normal GCS of 15/15 despite significant CT abnormalities. The GCS is useful for assessing level of consciousness, but it does not independently exclude structural intracranial pathology. In this patient, the normal GCS could potentially have provided false reassurance if considered in isolation. The persistence and progression of symptoms were therefore important clinical indicators for further investigation.

The CT findings were also unusual in demonstrating bilateral subdural haematomas at different stages of evolution. The left cerebral hemisphere contained a subacute subdural haematoma associated with contralateral midline shift, while the right hemisphere contained an acute-on-chronic subdural haematoma.

The presence of an acute-on-chronic collection indicates that new bleeding had occurred within an older subdural collection. Chronic subdural haematomas can develop vascularized membranes that are susceptible to recurrent bleeding, allowing the collection to enlarge progressively. (5)

The contralateral midline shift associated with the left-sided subacute haematoma is evidence of mass effect. Although the patient remained fully conscious, displacement of midline cerebral structures demonstrates that the collection was exerting clinically important pressure on the brain. This emphasizes the importance of correlating neurological examination with appropriate neuroimaging rather than relying solely on GCS.

The patient's successful treatment with burr-hole evacuation and subsequent full recovery is consistent with the established role of surgical evacuation in symptomatic subdural haematoma. Burr-hole evacuation is commonly used for symptomatic chronic subdural collections and is particularly attractive in older patients because it is relatively less invasive than craniotomy. (6)

The outcome in this case also demonstrates that delayed recognition does not necessarily result in an unfavourable outcome when the diagnosis is eventually established and appropriate treatment is provided. However, earlier recognition may potentially reduce the risk of further expansion, neurological deterioration, and complications related to mass effect.

4 CONCLUSION

Subdural haematoma may be missed in elderly patients following apparently mild traumatic brain injury because symptoms can be gradual and nonspecific, while the level of consciousness may remain preserved.

In this case, a 79-year-old man with a two-week history of worsening headache and a GCS of 15/15 was subsequently found to have a left cerebral hemisphere subacute subdural haematoma with contralateral midline shift and a right cerebral hemisphere acute-on-chronic subdural haematoma. Burr-hole evacuation was successfully performed, followed by full clinical recovery.

The case emphasizes that persistent or worsening headache in an elderly patient following head trauma warrants careful reassessment and consideration of repeat or delayed neuroimaging, even when the patient is fully conscious. Maintaining a high index of suspicion and ensuring timely diagnosis and neurosurgical management may prevent potentially serious complications and contribute to favourable outcomes.

STATEMENTS ON COMPLIANCE WITH ETHICAL STANDARDS

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Disclosure of conflict of interest

The author declares no conflicts of interest.

Statement of informed consent

Informed consent was obtained from the individual participated in the study.

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