

# A Case Report of Chronic Subdural Haematomas in two Elderly Patients

IW Crandon, D Eldemire-Shearer, D Fearon-Boothe, C Morris, K James

## ABSTRACT

*The authors present two elderly patients with chronic subdural haematomas following minor trauma. The difficulty associated with making the diagnosis is discussed. A high index of suspicion and routine follow-up of such patients is recommended in order to promote early diagnosis and prompt treatment of this reversible cause of dementia.*

## Reporte de un Caso de Hematomas Subdurales Crónicos en dos Pacientes Ancianos

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## RESUMEN

*Los autores presentan dos casos de pacientes ancianos con hematomas subdurales crónicos luego de sufrir traumas menores. Se discuten las dificultades asociadas con la realización del diagnóstico. Se recomienda un alto índice de sospecha y seguimiento de rutina en tales pacientes, a fin de promover el diagnóstico temprano para un pronto tratamiento de esta causa reversible de demencia.*

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## INTRODUCTION

Subdural haematomas are not unusual occurrences and when presenting in elderly patients (1, 2) can pose a diagnostic challenge. This case discussion highlights some of the issues.

A subdural haematoma is a collection of blood between the brain and the *dura mater* (3). The incidence of chronic subdural haematoma (CSDH) increases with age from 0.13 per 100 000 for persons in their twenties to 7.46 per 100 000 for persons in their seventies (4). Haematomas can occur acutely or present in a delayed fashion approximately 21 days after the onset of bleeding, the chronic subdural haematoma (3). Subdural haematomas are usually associated with head injuries, including indirect injuries such as falls, and are caused by the relative movement of the brain within the skull. This may lead to impact or disruption injuries to blood vessels from shearing or rotation forces as the head is accelerated and decelerated, and even to contusion on the ipsilateral or contralateral side of the brain (4).

Misdiagnosis of CSDH is aided by the lack of a history of significant trauma as well as the insidious course (5). In

one study, 25% of persons presented with symptoms over a two to three-month period (6). Almost 50% of patients have no history of trauma (4). Before the availability of CT scans, CSDH was misdiagnosed in as many as 72% of cases (4). Symptomatic CSDH needs surgical treatment. Two cases are discussed in order to highlight the problem of diagnosis and to increase awareness of good management practice in elderly patients.

## CASE REPORT

### CASE # 1

A 90-year old female presented to the Accident and Emergency Department (A&E) with a history of deteriorating consciousness over the previous 48 hours and seizures over the previous two hours.

The patient had fallen five weeks earlier while attempting to sit on a chair which had been moved. She could not recall a blow to the head but had a wound on the side of the head. She was admitted to a rural hospital for two days for observation. A CT scan had been reported as normal. Two weeks later, family members reported her being unwell but could not identify specific symptoms. She was seen again by her physicians and prescribed vitamins. She continued to deteriorate and became unable to perform the activities of daily living. She was eventually found collapsed on the floor and brought to Kingston to be cared for by a daughter. Twenty-four hours later, she had a seizure and presented to hospital where she was noted to be short of

From: <sup>1</sup>Department of Surgery, Radiology, Anaesthesia and Intensive Care, and <sup>2</sup>Community Health and Psychiatry, The University of the West Indies, Kingston 7, Jamaica.

Correspondence: Dr IW Crandon, Department of Surgery, Radiology, Anaesthesia and Intensive Care, The University of the West Indies, Kingston 7, Jamaica. fax: (876) 978-0907, email: icran@infochan.com.

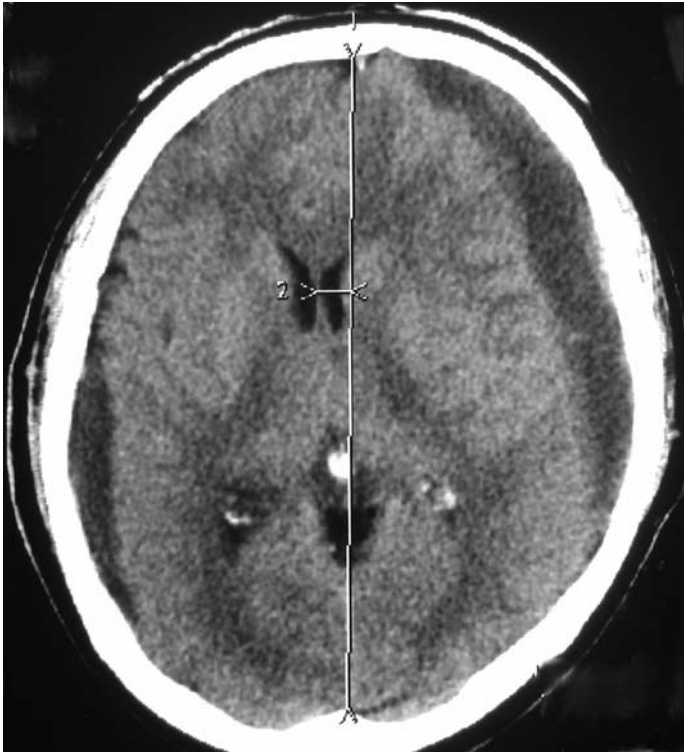


Fig 1: CT scan showing bilateral subdural collections, larger on the left.



Fig 2: CT scan showing bilateral subdural collections, larger on the right.

breath, drowsy but arousable, confused and with an elevated blood pressure. Differential diagnoses of myocardial infarction and pulmonary embolism were considered. Cardiac enzymes, blood gases and chest X-ray were normal. She was admitted to the medical ward where the seizures recurred and her conscious level worsened. A CT brain scan showed bilateral subdural collections, larger on the left (Fig. 1) and she was referred to neurosurgery.

#### CASE # 2

An 81-year old male presented with a history of increasing loss of balance and falling over the previous week. The patient's wife reported that he had been involved in a motor vehicle accident three weeks earlier, hitting his head on the windshield. He had loss of consciousness for less than two minutes, was clinically normal on examination in A&E and therefore discharged. He remained well for two weeks, resumed work including driving and then began having difficulty with balance for which he saw his general practitioner who requested a CT scan. This showed bilateral subdural collections with the right associated with mass effect and midline shift (Fig 2). A fracture of the left frontal bone was also noted. He was then referred to neurosurgery.

#### Treatment

Both patients were treated with burr hole evacuation of their subdural collections under general anaesthesia with post-

operative closed suction drainage for 24 hours. They both made an uncomplicated recovery to a normal state by the time of their discharge from hospital within seven days.

#### DISCUSSION

Recognizing the impact of the changes associated with ageing is becoming increasingly important given the increase in the elderly population. Chronic subdural haematoma is an important condition when considering sudden impaired mental function in such patients (7, 8). Healthcare professionals providing first point of contact care, general practitioners, family practitioners and A&E physicians must be aware of this risk.

While motor vehicle accidents are a common cause of acute subdural haematomas, CSDH are more common with falls in the elderly, probably due to acceleration/deceleration forces associated with shaking of the head and neck (4). Brain volume shrinks with increasing age allowing more room for the initial accommodation of a blood clot without symptoms (4). As clot volume increases past a critical level with continued oozing into the subdural space, symptoms begin or increase, often exponentially (4). Phillips (1996) in the Florida Trauma Triage Study found that triage criteria failed to identify nearly all the elderly patients with trauma from falls (9). In addition, alcohol may be involved in up to 65% of adult head injuries adding to diagnostic difficulty (10). Between 80 and 90% of patients with CSDH are adequately treated with one surgical procedure (4).

Brain injury in the elderly can be difficult to detect because it is often assumed that old age is associated with mental deterioration including forgetfulness and disorientation. Chronic subdural haematoma can present with similar cognitive symptoms and other abnormalities such as gait disturbances, headaches, seizures and a deteriorating conscious level but not always with a history of trauma (11).

Age-related factors including decreasing vision and reaction time, living alone and vascular disease, all of which increase the risk of falls, can contribute to increased trauma (12). Seniors are often too sick, unwilling or unable to provide a coherent history and measure of baseline functioning for the physician to use for comparison, hence the need to be suspicious based on symptoms. Indeed, there is no history of trauma in as many as 50% of cases due to the trivial nature of some injuries, the time between injury and presentation and also the effect of the lesion on recall (4). A thorough history in patients presenting with worsening mental function or an obvious unexplained change in mental function in an impaired person could identify a potential risk factor and increase the index of suspicion. The A&E physician and GP are challenged to be able to elicit and interpret the available information to determine the need for follow-up in patients presenting with impaired mental function.

A CT scan done soon after the trauma may not identify a late developing subdural haematoma. Elderly patients should be reviewed in clinic or by the primary physician two to three weeks after an injury regardless of the apparently trivial nature of such injury and the symptoms associated with possible CSDH elicited. Patients and a relative or

caregiver should be questioned where possible about changes in mental function including drowsiness and poor attention span, gastric symptoms especially vomiting and observed for gait disturbances. If any of these symptoms are present, a CT scan should be ordered. This is likely to lead to improved diagnostic accuracy and improved quality of life for seniors following prompt treatment of this reversible cause of dementia.

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