

## Subarachnoid haemorrhage? Think again

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A 69-year-old male patient was admitted to a hospital for acute cerebral infarction. During hospitalisation, he developed pneumonia, septic shock, bowel ischemia, and acute renal failure, and was transferred to our hospital for further treatment. On arrival, he underwent another non-contrast enhanced cranial computed tomography (CT), which suspected the presence of subarachnoid haemorrhage (SAH) (Figure 1). We then consulted a neurosurgeon urgently but additional image studies were avoided

to prevent contrast agent-related nephrotoxicity. Subsequent radiology confirmed that the cranial CT displayed pseudo-SAH, which may have resulted from hypoxic encephalopathy-induced severe cerebral oedema.

The patient was administered broad-spectrum antibiotics, aggressive haemodynamic support for septic shock, and mannitol infusion for the cerebral oedema. However, the sepsis progressed and he died 6 days after admission from multiple organ failure.

Marked cerebral oedema may develop in patients with hypoxic encephalopathy, severe head trauma, meningitis, postradiation therapy, and hypervolemia.<sup>1,2</sup> Several studies have reported that cranial CT of such patients sometimes reveals increased attenuation along the basal cisterna or cortical sulci, which mimics SAH.<sup>1-3</sup>

The key to differentiating true and pseudo-SAH is identifying the presence of severe cerebral oedema in the absence of a large amount of subarachnoid blood or a substantial parenchymal haematoma on a

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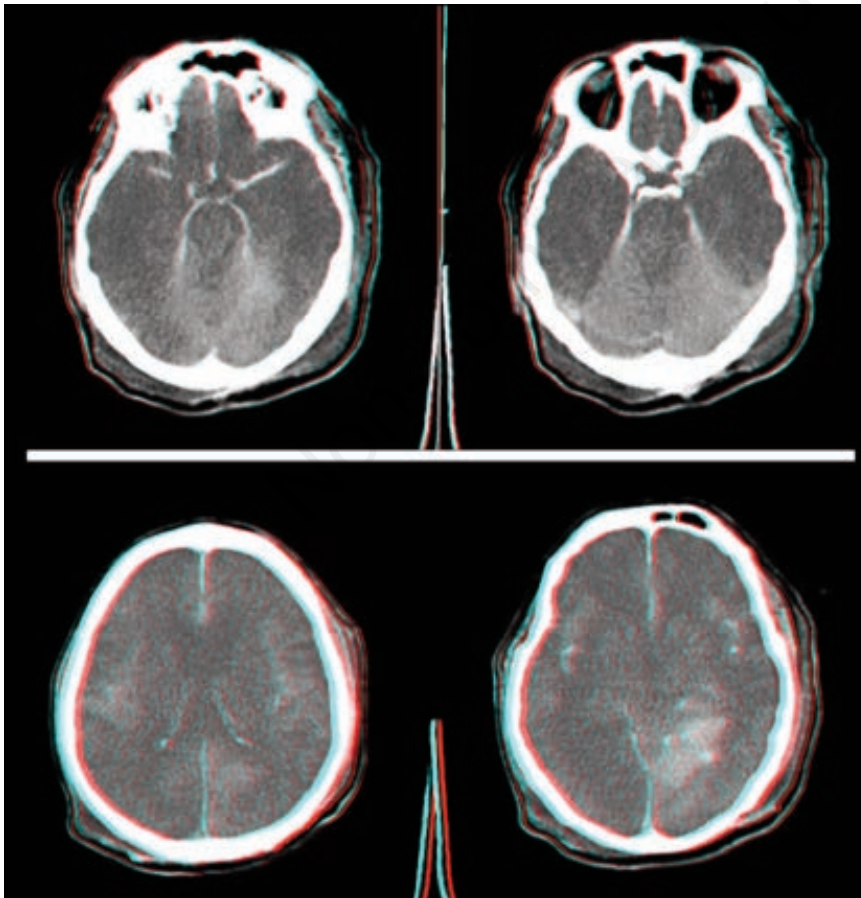


Figure 1. Cranial computed tomography scan revealing increased attenuation along the basal cisterna or cortical sulci, which mimics SAH. In the absence of a large amount of subarachnoid blood or a parenchymal haematoma, images of pseudo-SAH show the marked effacement of sulci and basal cisterns, invisible ventricles, and poor grey-white matter differentiation.

cranial CT scan. Cranial CT of pseudo-SAH will show the marked effacement of sulci and basal cisterns, slit-like ventricles, and poor grey-white matter differentiation.<sup>1,2</sup> Furthermore, the distribution of blood along the fissure and sulci exhibits irregular hyperdensity in true SAH, whereas it displays a smoother line in pseudo-SAH.

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