

Acute Subdural Hematoma with Ipsilateral Striatocapsular Infarction

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CASE

A 72-year-old man was missing for 2 days before being found unconscious on the ground and admitted to our hospital. He showed impaired consciousness with a score of 11 on the Glasgow coma scale (E3-V3-M5), subtle left hemiparesis, and a contused wound on the left side of his head. Computed tomography (CT) of the head showed right acute subdural haematoma (ASDH) and a small infarction in the striatocapsular area (Figure 1), which was confirmed to be in the acute phase by diffusion-weighted magnetic resonance (MR) imaging (Figure 2a). MR angiography revealed an occlusion of the right middle cerebral artery (MCA) (Figure 2b). We considered that his symptoms could be accounted for by a widespread haemodynamic ischaemic penumbra of the right cerebral hemisphere rather than the ASDH, and therefore attempted fluid resuscitation. His

consciousness showed remarkable improvement, to an almost alert state, and the hemiparesis disappeared. He was monitored closely in hospital. After 7 days, the volume of the ASDH increased and it was surgically evacuated. The patient was discharged from hospital with no sequelae.

According to the recommendation [1], the patient's ASDH on admission was a candidate for surgical evacuation. However, about 30% of striatocapsular infarction cases are caused by atherosclerotic MCA occlusion [2], which often accompanies a wide ischaemic penumbra and leads to progressive infarction.

Therefore, the haemodynamic state of the brain should be assessed in traumatic injury cases with signs of brain ischaemia, especially in the striatocapsular area.



Figure 1. Computed tomography (CT) showing acute subdural hematoma in the right side. Note the small low-density areas in the right putamen and the head of the caudate nucleus, which indicate striatocapsular infarction.

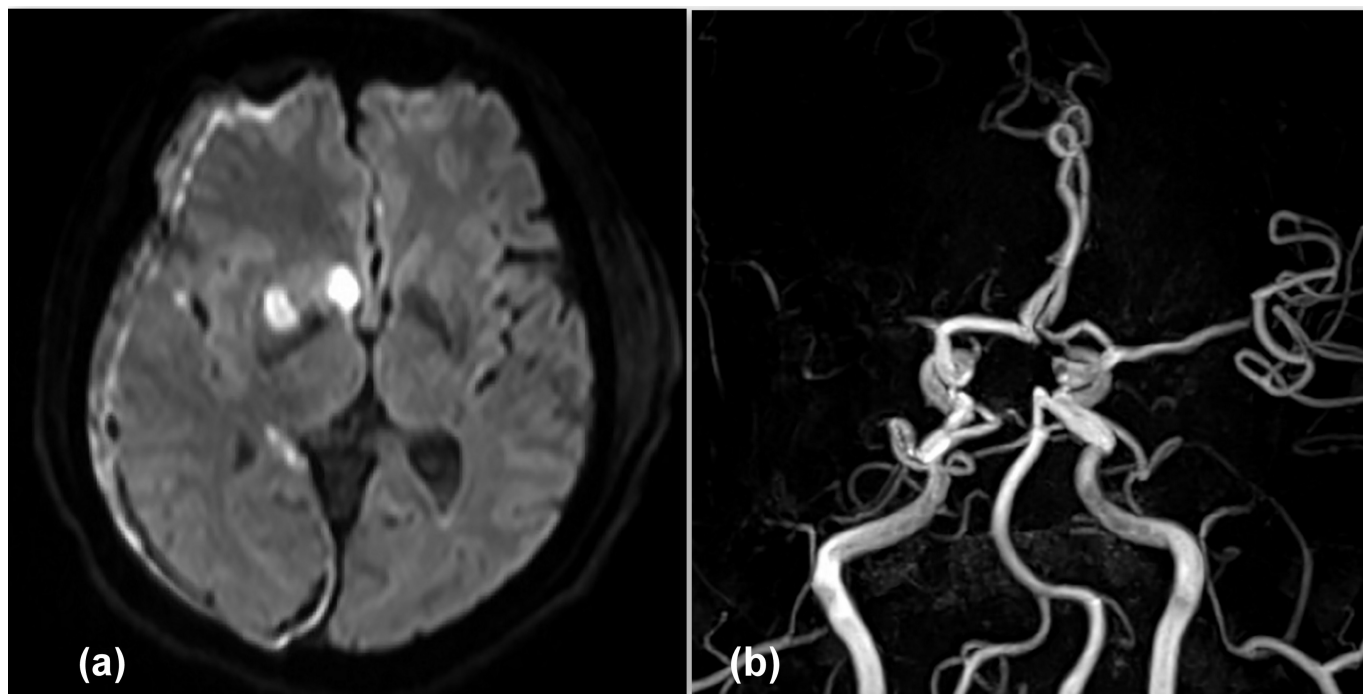


Figure 2. Magnetic resonance (MR) image of the brain examined soon after initial CT. (a) Diffusion-weighted MR image showing high signal intensity with corresponding low-density lesion in CT, which indicate that these lesions are acute cerebral infarctions. (b) MR angiogram showing the occlusion of the proximal horizontal portion of the right middle cerebral artery.

LEARNING POINTS

- Traumatic head injury can be accompanied by an acute ischaemic brain lesion.
- Infarction in the striatocapsular area often suggests underlying major artery occlusion accompanied by a widespread ischaemic penumbra.

The haemodynamic state of the brain should be assessed in traumatic injury cases with signs of brain ischaemia, especially in the striatocapsular area, to avoid progressive infarction.

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