Traumatic basal ganglia haemorrhage with slight clinical signs and complete recovery

A traumatic basal ganglia haemorrhage is a rare but serious complication of head injury. Recognition of its prevalence and clinical features has been made possible by the advent of CT. We describe a patient with a large traumatic basal ganglia haemorrhage with slight neurological signs and complete recovery.

A 15 year old right handed young woman sustained a left frontotemporal injury in a motorcycle accident. Witnesses reported a short loss of consciousness (lasting a few seconds) accompanied by a sudden and brief extensor "stiffening" of all limbs and followed by a phase of confusion (lasting a few minutes). On admission to the emergency department an hour later she was awake and fully orientated and reported retrograde amnesia of a few minutes duration. General physical and neurological examinations were normal, as were X ray pictures of skull, chest, and cervical spine, routine laboratory investigations and ECG. The next day she was still alert and cooperative, but complained of diffuse, moderate to severe, band-like headache. She had a very slight weakness of her left lower facial muscles. Her EEG showed a drowsy pattern (flattening with slow waves, 4-7 Hz low voltage waves, with inverted arousal reaction) without clear cut abnormalities. Two days later a repeat EEG showed right temporo-frontal 1-3 Hz high voltage waves, spreading medially to the ipsilateral hemisphere. A brain CT scan showed a medium sized haemorrhage surrounded by a slight oedema in the anterior half of the right lentiform nucleus, with a slight compression of the frontal horn of the lateral ventricle and displacement of the anterior limb and genu of the internal capsule and the head of the caudate nucleus (figure). Over the following days the facial weakness disappeared completely. A repeat CT ten days later showed a resorption of the haemorrhage. The EEG had reverted to normal. A right carotid angiogram did not show a vascular lesion.

Traumatic basal ganglia haemorrhage is a rare (3%) complication of severe closed head injury, occurring mainly in the young, the proposed underlying mechanism is shearing of an anterior choroidal or lenticulostriate artery due to violent acceleration-deceleration brought about by a high velocity injury. In almost every case the haemorrhage is accompanied by the usual pathological features of severe head injury—for example, diffuse axonal injury, multiple contusions, and epidural or subdural haematomas. In one large series patients with a traumatic basal ganglia haemorrhoma had a poor prognosis but cases with a favourable outcome have been reported. Basal ganglia vascular lesions that do not involve the internal capsule may be asymptomatic, and subcortical vascular lesions of the dominant hemisphere may bring about only aphasic disturbances or even be clinically silent. Small basal ganglia haemorrhages in the non-dominant hemisphere may not be associated with the typical cognitive and behavioural syndromes (left neglect, visuospatial impairment etc). The interest of the present case lies in its favourable outcome. Although an early CT examination was not performed, we suggest that the early absence of neurological or EEG abnormalities reflected a slow development of the haematomata.

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