Rapid Spontaneous Resolution of Neurological Signs and Cerebral Herniation Caused by Intracerebral Hemorrhage
—Case Report—

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Abstract

A 47-year-old man presented with sudden consciousness disturbance and left hemiplegia caused by intracerebral hemorrhage. Initial computed tomography (CT) showed a massive subcortical right temporoparietal lobe hematoma and signs of impending uncal herniation. However, he became alert and his hemiplegia improved considerably in the course of 2 hours, so conservative treatment was preferred over surgical intervention. Follow-up CT acquired on the next day revealed dramatic diminution of the intracerebral hemorrhage. Small intracerebral hemorrhages occasionally produce transient symptoms with or without disappearance of the hematoma, but the present patient had a large hematoma that decreased in size within a short time with rapid improvement of the symptoms attributed to the hematoma. The mechanism underlying the diminution of the hematoma may be related to redistribution by cerebrospinal fluid flow.

Key words: intracerebral hemorrhage, spontaneous resolution, cerebral herniation, conservative therapy, cerebrospinal fluid

Introduction

Intracerebral hemorrhage is the second most common form of stroke, and accounts for 10–20% of all events.1) The outcome is generally prolonged or permanent focal neurological dysfunction, with neurological deficits evolving over the course of minutes or hours, and persisting for days or weeks before major improvement.9) Although patients have achieved rapid recovery after intracerebral hemorrhage, rapid spontaneous resolution of impending herniation caused by massive cerebral hemorrhage is extremely rare. We treated a patient with intracerebral hemorrhage whose neurological signs improved rapidly and whose hematoma decreased quickly in size.

Case Report

A 47-year-old man with alcoholic cirrhosis suddenly developed consciousness disturbance and left hemiplegia. He was transferred to our hospital one hour later. On admission he was drowsy with left hemiplegia, and Glasgow Coma Scale (GCS) score was 13 (E-3, V-4, M-6). Coagulation tests revealed prolongation of prothrombin time (13.9 sec), but normal platelet count. Liver function tests dis-
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The present patient with intracerebral hemorrhage showed very rapid improvement without interventional therapy. CT on admission revealed a large subcortical hemorrhage and signs of impending uncal herniation. Unexpectedly, CT acquired the next day disclosed remarkable diminution of the hematoma.

Intracerebral hemorrhage is a known cause of transient focal neurological attacks. Nine patients with intracerebral hemorrhage recovered rapidly and 2 patients with intracerebral hemorrhage had focal neurological symptoms and signs which resolved spontaneously within 24 hours. However, these patients had relatively small hematomas, whereas our patient had a large hematoma associated with impending transtentorial herniation.

The true incidence of rapid resolution of intracerebral hemorrhage remains unknown, but hemorrhages are known to diminish spontaneously, if only rarely. A patient with petrous bone fracture after head trauma showed spontaneous cure of intracerebral hematoma by drainage into the middle ear. However, in our case, the intracerebral hemorrhage was not related to head trauma, so appears to be a large hematoma which decreased spontaneously resulting in rapid disappearance of symptoms.

Several mechanisms have been proposed to explain the rapid spontaneous resolution and redistribution of subdural hematoma. Co-mingling of hematoma with the CSF is key in the redistribution process. CSF liquidizes the hematoma and the blood clots are redistributed to the subarachnoid and subdural spaces. In addition, our patient had a history of liver cirrhosis, so coagulopathy may have enhanced the mobility of the hematoma. Rapid resolution of an acute subdural hematoma has never been attributed to the...
delayed coagulation cascade, but patients with liver cirrhosis or chronic alcoholism occasionally manifest an association with liver function disorders.\(^8,^{11}\)

The present case suggests that clinicians should be aware that large intracerebral hemorrhages may diminish spontaneously, although rare and of unclear pathophysiology. Factors underlying spontaneous improvement in patients with life-threatening cerebral hemorrhage must be identified before performing emergency surgery. Close monitoring and conservative management may be advisable in patients whose clinical status improves spontaneously.

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**References**


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