Spontaneous cerebellar hemorrhage

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Spontaneous cerebellar hemorrhage (SCH) is less common than supratentorial intracerebral hemorrhage.

Acute spontaneous cerebellar hemorrhage presenting with ataxia, dysarthria, vomiting, dizziness, and coma is commonly the result of hypertension [1].

Etiology

Spontaneous cerebellar hemorrhage etiology.

Treatment

see Cerebellar hemorrhage treatment.

Outcome

see Cerebellar hemorrhage outcome.

Case series

Han et al presented a SCH management protocol and analyzed the clinical and radiological findings in 41 SCH patients. The outcomes of each method (surgery and conservative treatment) were compared among patients with initial Glasgow Coma Scale (GCS) score of 9-13 and hematoma volume greater than 10 mL.

Two (4.9%), 16 (39%), and 23 (56.1%) patients had an initial GCS score of 3-8, with 3-8, 9-13, and 14-15, respectively. Initial GCS score showed significant correlation with Glasgow Outcome Scale

(GOS) score (p = 0.005). The mean largest hematoma diameter was 3.2 ± 1.5 cm, and the mean volume was 11.0 ± 11.5 mL. Both of them showed significant inverse correlation with GOS score (p < 0.001). Among patients with an initial GCS score of 9-13 and hematoma volumes greater than 10 mL, 3 (50%) had good outcome and 3 (50%) had poor outcome in the surgical, and all of those in the conservative treatment group had poor outcomes. The outcome distribution differed significantly in the surgical and conservative groups (p = 0.030).

Initial GCS score and largest hematoma diameter and volume on brain computed tomography are important determinants of outcome in SCH patients. The surgery group showed better outcome than the conservative treatment group among those with an intermediate neurological status and large hematomas [2].

Spontaneous cerebellar hemorrhage accounts for 5%-10% of intracerebral hemorrhage in most series. From June 1979 to June 1983 Lui et al., had 26 surgical cases of spontaneous cerebellar hemorrhage. There were 15 men and 11 women. The typical history was sudden onset of severe headache, vomiting, dizziness, and inability to walk. Disturbance of consciousness was usually a late feature. Common signs were truncal ataxia, nystagmus, conjugate eyeball deviation, small miotic pupils with or without light reflex and abducens palsy. Surgical indications are (a) disturbance of consciousness, (b) signs of brainstem compression and © hematoma with transverse diameter greater than 3 cm. The overall surgical mortality was 34.6%. Twenty-two patients underwent suboccipital craniectomy to evacuate hematomas with or without ventriculostomy; mortality rate was 27%. Four patients underwent ventriculostomy only; mortality was 75%. Causes of death were (a) brainstem failure, six patients; (b) airway obstruction, one patient; © chest infection, one patient; (d) chronic renal failure, one patient [3].

Case reports

A previously healthy 10-year-old girl presented with a loss of consciousness following a sudden headache and vomiting. A non-contrast brain computed tomography (CT) scan revealed a massive cerebellar hemorrhage with obstructive hydrocephalus; however, subsequent CT angiography (CTA) showed no vascular abnormalities. An emergency craniotomy was performed to evacuate the hematoma, and histological analysis of the specimen obtained from the tissue surrounding the hematoma revealed a pilocytic astrocytoma (PA). Six months after the ictus, her recovery was scored at 2 on the modified Rankin Scale.

PA can be a cause of critical cerebellar hemorrhage. In this case of a life-threatening massive hematoma, CTA was useful to exclude a major vascular pathology and to save time [4].

Yamada et al. reported a case of infant fistula-type AVM that developed into nidus-type AVM 15 years later. This is the first report to document morphological changes of AVM over time in one case. The present case suggests the possibly that AVM morphology may change with age, and is an important when considering the history of AVM [5].

2017

First cerebellar hemorrhage due to a direct carotid cavernous fistula (CCF).

Kamio et al., describe a 63-year-old female who presented with reduced consciousness 3 days after undergoing a maxillectomy for maxillary cancer. Computed tomography showed a cerebellar hemorrhage. Magnetic resonance angiography showed a left-sided direct CCF draining into the left petrosal and cerebellar veins through the left superior petrosal sinus (SPS). Her previous surgery had sacrificed the pterygoid plexus and facial vein. Increased blood flow and reduced drainage could have led to increased venous pressure in infratentorial veins, including the petrosal and cerebellar veins. The cavernous sinus has several drainage routes, but the SPS is one of the most important routes for infratentorial venous drainage. Stenosis or absence of the posterior segment of the SPS can also result in increased pressure in the cerebellar and pontine veins. They emphasize that a direct CCF with cortical venous reflux should be precisely evaluated to determine the hemodynamic status and venous drainage from the cavernous sinus [6].

2014

A rare case of a 34-year-old woman suffering from a fulminant NPE in parallel with a spontaneous cerebellar hemorrhage. Although appropriate supportive measures were taken in the neuroscience care unit, the patient failed to survive hypoxemia within 28 h after hospital admission.

Pathological lesions of the cerebellum may initiate a cascade of reactions including massive sympathetic discharge and catecholamine storm, leading to a dysfunction of both cardiovascular and respiratory systems. By far, no effective therapeutic strategies have been utilized to treat such a situation. Our present report would shed light on the underlying mechanism of NPE [7].

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