Putaminal hemorrhage

This type of BGH occurs in the putamen, which is the largest part of the basal ganglia. Putamen hemorrhage is the most common type of BGH and typically causes contralateral hemiplegia or weakness on one side of the body.

Rupture of the lenticulostriate artery of the middle cerebral artery 1st segment (M1) is the most common cause of putaminal intracerebral hemorrhage (ICH).

Putaminal ICHs occur more frequently on the side of the dominant A1 segment. This information can help an understanding of the mechanism of putaminal spontaneous ICH development and may even assist in the treatment of ICH [1].

Findings suggest that hematoma type and volume not only influence the development of aphasia following putaminal hemorrhage but also play a major role in determining the patient's fluency and repetition ability [2].

Classification

One commonly used classification system for putaminal hemorrhage is the Heidelberg Bleeding Classification, which divides putaminal hemorrhages into five categories based on the location and size of the hemorrhage:

Small isolated putaminal hemorrhage: A hemorrhage less than 10 ml in volume confined to the putamen and not involving the adjacent internal capsule.

Large isolated putaminal hemorrhage: A hemorrhage greater than 10 ml in volume confined to the putamen and not involving the adjacent internal capsule.

Putaminal hemorrhage with extension into the internal capsule: A hemorrhage that extends into the internal capsule, a bundle of nerve fibers that connects the brainstem to the cerebral cortex.

Putaminal hemorrhage with intraventricular extension: A hemorrhage that extends into the ventricular system of the brain, which contains cerebrospinal fluid.

Putaminal hemorrhage with additional extension: A hemorrhage that extends into other brain structures or involves multiple areas of the basal ganglia.

Other classification systems may also be used, and the specific classification of a putaminal hemorrhage can depend on the goals of the analysis and the available data.

Differential diagnosis

Glioblastoma multiforme masquerading as a hypertensive putaminal hemorrhage [3].

Outcome

It is not clear whether the fornix and cingulum are involved in cognition after putaminal hemorrhage (PH). Yang et al., investigated structural changes and differences of the neural tracts, and the relationship between the integrity of the neural tracts and cognition not only at the affected but also at the unaffected side.Sixteen patients with left chronic putaminal hemorrhage and 20 healthy volunteers were enrolled. Using diffusion tensor tractography (DTT), we compared fiber number (FN), fractional anisotropy (FA), and apparent diffusion coefficient (ADC) of the neural tracts between patient and control groups. The relationship between the neural tract parameters and neuropsychological results was also analyzed.The left fornix FN was significantly lower than the right fornix FN in the patient group. Except for the cingulum FA, the neural tracts parameters for both the affected and unaffected hemispheres differed significantly between the groups. The fornix FA and ADC at the affected side were significantly correlated with intelligence quotient (IQ), mini-mental status examination (MMSE), and short-term memory. Interestingly, the fornix ADC at the unaffected side was significantly correlated with MMSE. However, none of the cingulum parameters was correlated with neuropsychological results.The fornix integrity is critical for cognitive impairment after putaminal hemorrhage [4].

The prognosis of dysphagia caused by putaminal hemorrhage is good, with no patient requiring enteral feeding, although putaminal hemorrhage often causes dysphagia. Patient age and ADL score on admission are used to predict the residual factors of dysphagia [5].

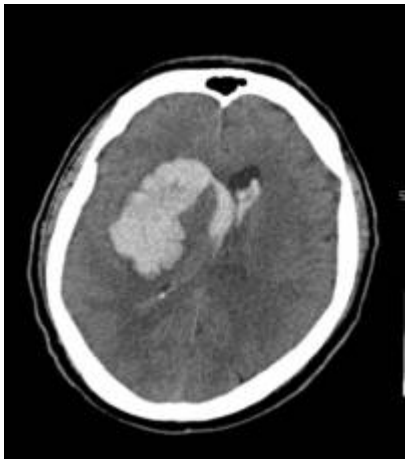
Treatment

The role of surgical and medical therapy in treating putaminal haemorrhage remains controversial. Although the Surgical Trial in Intracerebral hemorrhage (STICH) has shown that there is no significant benefit of early surgery compared with initial conservative treatment in patients with spontaneous intracerebral hemorrhage [6].

Case report

A 52-year-old patient with dizziness. Subsequently, he suffered a fall, subsequently presenting

aphasia and left hemiplegia.



Intraparenchymal blood collection centered on the right basal ganglia of 6 x 6.3 x 3.9 cm (CCxAPx T) can be seen, suggesting a hypertensive origin with an opening to both lateral ventricles, the 3rd and 4th ventricle and also an extension to the parenchyma of the frontal operculum and the ipsilateral parietal.

- General anesthesia. Supine position. Right parietal C-shaped skin incision

- Right parietal craniotomy supported on 3 trephines with the help of a high-speed motor. Pedicled C-shaped durotomy towards the superior longitudinal sinus. Tension brain without a heartbeat. - The part of the hematoma closest to the surface is checked with the help of intraoperative ultrasound. Corticectomy and hyperacute liquid hematoma is observed. Intraparenchymal clot aspiration and washing with abundant serum. Relaxation of the brain and recovery of the heartbeat are observed. - Hemostasis with floseal on the surgical bed. Profuse bleeding from the cortical veins at their entrance into the superior longitudinal sinus is controlled with bipolar and tachosil coagulation. When stretching the dura mater for its suture, the venous bleeding reappeared, so it was decided to apply the tachosil for dural closure. - Craniotomy replacement with miniplates. Closure of the incision by layers (subcutaneous with absorbable and skin with clips).

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