

Chronic Subdural Hematoma- An Up-to-Date Concept

- Chronic subdural hematoma (CSDH) is prevalent among elderly populations worldwide.
- CSDH is defined as a cystic unclotted hematoma with the outer and inner membranes in the subdural space. A common disease in the elderly, CSDH usually develops within one or two months after a minor head injury.
- The time gap between the collection of subdural fluid and the development of CSDH has not been described in detail.
- The researchers all assumed that a thin posttraumatic subdural hematoma played an important role in the development of an inflammatory granulation-like neomembrane as the early stage of CSDH.
- A neomembrane can be formed from CSF mixed with blood. Bleeding occurs inside the neomembrane to form a cystic hematoma.
- Nearly 50% of patients with asymptomatic subdural fluid collection might develop CSDH.
- It is conceivable that, as a sequel to traumatic head injury, the brain contusion is accompanied by an outflow of bloody CSF into the subdural space from the subarachnoid space in moderately injured victims, and it seems probable that an arachnoid tear around a bridging vein causes the subdural collection of slightly bloody CSF in patients with a minor head injury.
- CSDH is well known to occur in patients with other conditions, such as renal failure with blood dialysis, intracranial hypotension syndrome, including the patients with CSF shunt, and coagulopathy.
- There have been various treatment methods for CSDH such as total removal of the outer and inner membranes with hematoma, trephination, two burr holes with irrigation, one burr hole with irrigation, solely aspiration of the hematoma, and nonsurgical drug therapies. Total removal of the membranes with a hematoma occasionally resulted in serious complications and came to be used very infrequently.
- The postoperative incidence of seizures after burr hole treatment is low and similar to that previously reported for minor head injury. Therefore, the routine use of antiepileptic prophylaxis is not necessary in patients with CSDH caused by minor head injuries or other causes and who are treated by burr hole when there are no additional lesions present on CT scans.
- The starting point is a subdural collection of CSF with blood cells which occurs due to tears in the arachnoid membrane following contusion of the brain or slight bleeding from a bridging vein. The next step is the formation of a primary neomembrane with a rich vasculature following an inflammatory reaction by persistent and somewhat bloody subdural fluid collection. Gradual bleeding with exudation including various cytokines and activating substances occurs inside the neomembrane, and the

unclothed hematoma increases in size as an encapsulated hematoma with a thick outer membrane and thin inner membrane above the arachnoid membrane, although some hematoma resolves spontaneously. Natural healing of the hematoma membrane may occur as part of the regression of the inflammatory process. A burr hole with irrigation is thought to be effective to speed this healing process of the vascular-rich membrane.



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