Chronic subdural hematoma etiology

- Incidence, predictors, and management of postoperative subdural empyema following chronic subdural hematoma evacuation: a population-based cohort study
- Massive pneumocephalus as a risk factor for recurrence after chronic subdural hematoma surgery: A systematic review and meta-analysis
- Characteristics of chronic subdural haematomas related to DOACs vs warfarin
- Factors Related to Recurrence and Complications after Percutaneous Subdural Tapping for Chronic Subdural Hematomas (Aoki Method): Clinical Experiences of 383 Patients with Chronic Subdural Hematomas
- Risk factors of postprocedure seizures following standalone middle meningeal artery embolization of chronic subdural hematomas: a bi-institutional retrospective analysis
- Palliative middle meningeal artery embolisation for symptomatic chronic subdural haematoma in an individual with resistant thrombocytopaenia due to acute myeloid leukaemia
- Analysis of Preoperative Imaging Factors and Development of a Nomogram Model for Predicting Recurrence in Patients with Septated Chronic Subdural Hematoma
- Prognostic significance of frailty in chronic subdural hematoma: implications for treatment selection in the era of middle meningeal artery embolization
- Age > 65 years
- Anticoagulant or antiplatelet therapy
- Alcoholism
- Brain atrophy (e.g., in dementia)
- History of mild head trauma

Chronic subdural hematoma (CSDH) development involves inflammatory, angiogenetic, and fibrinolytic mechanisms, several components of which are now unraveled through intensive research ¹⁾

The most common theory of its cause is a minor brain injury resulting in the rupture of a bridging vein. The outer membrane of subdural hematoma (SDH) evolves like cutaneous wound healing with different phases. The outer membrane of SDH underwent surgery, and macroscopic analysis was performed using an operating microscope. Three patients underwent pathological analysis through histological examination, and through this, the difference according to ICH occurrence and detection time was analyzed. This study suggests that the outer membrane of SDH contains inflammatory and collagen cells in the early stages and thickens over time. This healing response is similar to cutaneous wound healing ²

Recognized risk factors for the development are, old age, and using anticoagulant, but its underlying pathophysiological processes are still unclear. It is assumed that a complex local process of interrelated mechanisms including inflammation, neomembrane formation, angiogenesis, and fibrinolysis could be related to its development and propagation.

Traumatic

Chronic subdural hematomas mainly occur amongst elderly people and usually develop after minor head injuries.

Chronic subdural hematoma (CSDH) is an uncommon but potentially serious complication of clipping unruptured intracranial aneurysms.

see Chronic subdural hematoma with cerebrospinal fluid leakage

Non traumatic

Nontraumatic chronic subdural hematoma.

Arachnoid Cyst Associated Chronic Subdural Hematoma

see Arachnoid Cyst Associated Chronic Subdural Hematoma.

Isolated SDH is a rare complication of DAVF. In this report, we presented a rare case of CSDH secondary to an intracranial DAVF. According to this case report and our literature review, the so-called benign type of DAVF without cortical venous drainage does not always warrant a benign process and might be complicated with SDH. Careful preoperative investigation is needed for relative young patients presenting with idiopathic or atypical SDH ³.

Metastases

Subdural hematoma (SDH) occasionally accompanies dural metastasis and is associated with high recurrence rate, significantly impacting patient morbidity and mortality. This systematic review aims to evaluate the characteristics, management options, and outcomes of patients with SDH associated with dural metastasis.

A comprehensive search of the PubMed and Cochrane databases was conducted for English-language studies published from inception to March 20, 2023, adhering to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The authors reviewed cases of histopathologically confirmed SDH with non-central nervous system (non-CNS) tumor metastasis, focusing on therapeutic management of SDH. Statistical analysis was performed using SPSS software, with a significance level set at 0.05.

This review included 32 studies comprising 37 patients with 43 SDH cases associated with dural metastasis. Chronic SDH was the most frequently observed presentation (n = 28, 65.12%). The systemic malignancies most commonly associated with SDH due to dural metastasis were prostate carcinoma (n = 9, 24.32%) and gastric carcinoma (n = 5, 13.51%). A statistically significant

association was found between metastatic melanoma and subacute SDH (p = 0.010). The majority of patients were treated with burr holes (n = 15, 40.54%) or craniotomies (n = 14, 37.84%), with no statistically significant difference in mortality rates between the two techniques (p = 0.390). Adjuvant therapy was administered to a limited number of patients (n = 5, 13.51%), including chemotherapy (n = 2, 5.41%), whole brain radiotherapy (n = 1, 2.70%), a combination of chemotherapy and whole brain radiotherapy (n = 1, 2.70%), and transcatheter arterial chemoembolization (n = 1, 2.70%). The overall recurrence rate was 45.95% (n = 17), with burr holes being the most common management approach (n = 4, 10.81%). Within a median of 8 days, 67.57% (n = 25) of patients succumbed, primarily due to rebleeding (n = 3, 8.11%), disseminated intravascular coagulation (n = 3, 8.11%), and pneumonia (n = 3, 8.11%).

This review highlights the need for improving existing neurosurgical options and exploring novel treatment methods. It also emphasizes the importance of dural biopsy in patients with suspected metastasis to rule out a neoplastic etiology $^{4)}$

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