- Post-traumatic hydrocephalus after decompressive craniectomy: a multidimensional analysis of clinical, radiological, and surgical risk factors
- Cerebral Venous Thrombosis in Traumatic Brain Injury: A Population-Based Cross-Sectional Study of 640 Patients
- Transcirculation repair of a direct carotid-cavernous fistula in a patient who presented with hydrocephalus: illustrative case
- An Analysis of Emergency Surgical Outcomes for Pediatric Traumatic Brain Injury: A Ten-Year Single-Institute Retrospective Study in Taiwan
- Cerebral microdialysis demonstrates improvements in brain metabolism with cerebrospinal fluid diversion in spontaneous intracerebral hemorrhage
- Neurophobia Among Medical Students: Is Virtual Teaching the Answer?
- Prognostic Neuroimaging Biomarkers in Acute Vascular Brain Injury and Traumatic Brain Injury
- Clinical outcome and prognostic factors of patients with non-traumatic angiography-negative subarachnoid hemorrhage

Posttraumatic hydrocephalus is a common complication of head injury. However, hydrocephalus after tSAH has seldom been addressed.

## see Posttraumatic hydrocephalus

The aim of a study of Chen et al. was to investigate the risk and peak time of posttraumatic hydrocephalus (PTH) in traumatic brain injury (TBI) patients with traumatic subarachnoid hemorrhage (SAH), compared to TBI patients without traumatic SAH.

In this retrospective population-based cohort study, the data was extracted from Longitudinal Health Insurance Database from 2000 to 2010 in Taiwan. A total of 23,775 TBI patients who had a first event TBI during 2000 to 2010 were included and divided into TBI with SAH (TBI-S) group and TBI without SAH (TBI-NS) group. They focused on analyzing the PTH in both groups within 2 years after brain injury. Competing risk regression models were performed to assess the risk of developing PTH in the TBI-S group compared to the TBI-NS group.

Comparing to the TBI-NS group, there was a significantly higher cumulative incidence of PTH in the TBI-S group during the 2-year follow-up period. The adjusted hazard ratio (HR) of PTH in TBI-S group within 2 years was between 2.90-3.47, and the highest estimates were obtained within 6 months after injury (HR = 3.47, 95% CI: 2.43-4.94). The occurrence percentage of PTH was highest during 0-3rd month follow-up periods (1.95% in TBI-S group; 0.48% in TBI-NS group).

The peak time of PTH occurrence was noted during 0-3rd month post brain injury. Traumatic SAH patients had an approximate 3-fold risk of developing PTH, comparing to TBI patients without traumatic SAH<sup>1</sup>.

Tian et al. presented a clinical study to determine the incidence of hydrocephalus and analyze the risk factors for developing hydrocephalus in patients with tSAH.

A consecutive series of 301 patients with tSAH were retrospectively reviewed to determine the effects of the admission GCS score, age, sex, decompressive craniectomy, intraventricular hemorrhage, and features of tSAH (according to the initial computerized tomography scans) on the development of hydrocephalus. Risk factors for hydrocephalus were evaluated by using logistic regression analysis.

Of the 301 patients, hydrocephalus was observed in 36 (11.96%). Increasing age (P < .05), intraventricular hemorrhage (P< .05), and thickness (P< .01) or distribution (P< .05) of tSAH were significantly associated with the development of hydrocephalus. No relationship was found between hydrocephalus and sex, admission GCS score, location of tSAH, or decompressive craniectomy.

Hydrocephalus frequently occurs in patients with tSAH. Increasing age, low GCS score on admission, intraventricular hemorrhage, and severe SAH could be risk factors for facilitating the development of hydrocephalus<sup>2)</sup>.

## 1)

Chen KH, Lee CP, Yang YH, Yang YH, Chen CM, Lu ML, Lee YC, Chen VC. Incidence of hydrocephalus in traumatic brain injury: A nationwide population-based cohort study. Medicine (Baltimore). 2019 Oct;98(42):e17568. doi: 10.1097/MD.000000000017568. PubMed PMID: 31626123. 2)

Tian HL, Xu T, Hu J, Cui YH, Chen H, Zhou LF. Risk factors related to hydrocephalus after traumatic subarachnoid hemorrhage. Surg Neurol. 2008 Mar;69(3):241-6; discussion 246. Epub 2007 Aug 17. PubMed PMID: 17707493.

From: https://neurosurgerywiki.com/wiki/ - Neurosurgery Wiki Permanent link: https://neurosurgerywiki.com/wiki/doku.php?id=hydrocephalus\_after\_traumatic\_subarachnoid\_hemorrhag Last update: 2025/02/06 11:51

