# Intracranial acute spontaneous subdural hematoma

see Dural arteriovenous fistula presenting as an acute subdural hemorrhage.

see Intracranial Acute Subdural Hematoma after Spinal Anesthesia

## Case series

1997

Three cases of acute subdural hematoma without head injury, but associated with bleeding from cortical artery are described. Case 1: a 74-year-old male had sudden headache during a bronchial asthma attack followed by deterioration of consciousness. He was deeply comatose on admission, and CT scans revealed a huge subdural hematoma. Evacuation of the large hematoma revealed a spurting cortical branch of the middle cerebral artery beneath it.

Case 2: Four days before admission, a 69-year-old male developed headache during a fit of coughing. His CT scans on admission showed a thin subdural hematoma. Because it was increasing in volume, the hematoma was removed surgically. A spurting cortical branch of the middle cerebral artery was seen on the surface of the temporal lobe.

Case 3: a 80-year-old male, who had had an operation for inguinal hernia under spinal anesthesia ten days before, suffered a sudden headache just after he stood up. CT scans revealed a thick subdural hematoma. As the clot was being removed a spurting artery was seen in the Sylvian region. In a review of 116 surgical cases of acute subdural hematoma at our institute, the incidence of acute spontaneous subdural hemorrhage was 2.6%. The etiology of nontraumatic hematoma is a matter of controversy. Our three cases suggested that the etiology might be the rupture of a cortical artery at the site of adhesion with the dura mater. This would predispose the artery to tearing with minor trauma. Hematoma evacuation by craniotomy and treatment of the ruptured cortical artery were necessary for favorable outcome<sup>1)</sup>.

### 1991

Serizawa et al present three cases of non-traumatic acute subdural hematoma showing interesting clinical features and operative findings.

Case 1: A-50-year-old male was admitted because of sudden headache and epileptic seizure. Computed tomographic (CT) scan showed a right thin subdural hematoma, but cerebral angiography demonstrated no pathological findings, that might cause acute subdural hematoma on the follow-up CT scans. The hematoma changed to a chronic one within only 15 days, which was proved by the operation.

Case 2: A 52-year-old male was hospitalized because of loss of consciousness. CT scan revealed a right subdural hematoma without subarachnoid hemorrhage and cerebral angiography demonstrated

a right middle cerebral artery aneurysm. The hematoma was surgically proved to be due to rupture of the aneurysm.

Case 3: A 52-year-old male was admitted because of headache, vomiting and left motor weakness. CT scan showed a thick right subdural hematoma and right carotid angiography revealed two internal carotid artery aneurysms. It was surgically certified that the subdural hematoma was caused by a tear in a cortical artery attached to the dura, not by the rupture of the aneurysms. Clinical cause and pathogenesis of so-called "non-traumatic" or "spontaneous" acute subdural hematomas were discussed, and the importance of emergency angiography for this condition is stressed <sup>2)</sup>.

## **Case reports**

A 53-year-old Asian woman presented with severe headache and progressive neurologic deterioration due to cerebral edema. The patient was submitted to open surgery for evacuation of the subdural hematoma and concurrent tumor removal on the ipsilateral parietal convexity. A hypervascular, encapsulated mass was identified during surgery and completely removed including the adjacent dura mater (Simpson grade 0). The tumor was histologically confirmed as an angiomatous meningioma (World Health Organization grade I). Her clinical course was uneventful after surgery.

Although meningiomas are commonly benign according to their histological traits, they can lead to spontaneous bleeding and cause the neurologically unstable conditions. Therefore, meningiomas need to be considered as a cause of spontaneous subdural hematoma if radiologically suspicious, which should be reflected by proper management for a positive outcome <sup>3)</sup>

Sazonov et al. presented a rare clinical case of a patient with multiple cavernous malformations who developed acute subdural hematoma associated with one of the cavernomas. They addressed the issue of diagnosing an origin of hemorrhage in subdural hematomas, in particular in the absence of traumatic brain injury (TBI) findings <sup>4)</sup>.

#### 1)

Komatsu Y, Uemura K, Yasuda S, Shibata T, Kobayashi E, Maki Y, Nose T. [Acute subdural hemorrhage of arterial origin: report of three cases]. No Shinkei Geka. 1997 Sep;25(9):841-5. Japanese. PubMed PMID: 9300455.

Serizawa T, Satoh A, Kobayashi S, Nakamura H, Odaki M, Miyata A, Watanabe Y. [Three cases of non-traumatic acute subdural hematoma]. No Shinkei Geka. 1991 Nov;19(11):1061-5. Japanese. PubMed PMID: 1762656.

Nam JW, Park ES, Park JB, Seo JH, Kim M, Jung NY. Benign meningioma manifesting with acute subdural hematoma and cerebral edema: a case report and review of the literature. J Med Case Rep. 2021 Jun 29;15(1):335. doi: 10.1186/s13256-021-02935-x. PMID: 34187580; PMCID: PMC8244191.

Sazonov IA, Belousova OB. [A cavernous malformation associated with an extensive acute subdural hematoma. A case report and literature review]. Zh Vopr Neirokhir Im N N Burdenko. 2019;83(3):73-76. doi: 10.17116/neiro20198303173. Russian. PubMed PMID: 31339499.

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