OLGU SUNUMU CASE REPORT

POSTERİOR KOMMÜNİKAN ARTER ANEVRİZMA RÜPTÜRÜNE BAĞLI GELİŞEN BİLATERAL AKUT SPONTAN SUBDURAL HEMATOM: OLGU SUNUMU

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ÖZET

Bu makalede posterior kommünikan arter anevrizması rüptürüne bağlı gelişen bilateral akut subdural hematom olgusu sunulmuştur. Bu olgu, posterior kommünikan arter anevrizması rüptürüne bağlı gelişen ilk bilateral akut subdural hematom olgusudur. Literatür gözden geçirilmiş ve bu oluşumun muhtemel mekanizmaları tartışılmıştır.
Anahtar Sözcükler: Subdural hematom, serebral anevrizma, spontan.

BILATERAL ACUTE SPONTANEOUS SUBDURAL HEMATOMA CAUSED BY RUPTURE OF A POSTERIOR COMMUNICATING ARTERY ANEURYSM: CASE REPORT

A case of bilateral acute spontaneous subdural hematoma which was caused by rupture of a posterior communicating artery aneurysm is presented. This is the first case of posterior communicating artery aneurysm rupture which causes bilateral subdural hematoma. In the literature comparable cases are reviewed and possible mechanisms for this occurrence is discussed.
Key Words: Subdural hematoma, cerebral aneurysm, spontaneous.

INTRODUCTION

Trauma is the most common cause of bleeding into the subdural space. There also are numerous non-traumatic pathologies that may result in an acute subdural hematoma. Acute spontaneous subdural hematoma (ASSDH) secondary to rupture of an intracranial aneurysm is very rare (1). In this case report, we present a posterior communicating artery aneurysm that bled into subdural space bilaterally and into cerebral parenchyma.

CASE REPORT

The patient was admitted to the hospital with acute onset of severe headache, vomiting and nausea for an hour. She was 73-year-old and had no history of head trauma. She was on antihypertensive therapy for one year. She had a blood pressure of 220/110 mmHg and heart rate of 100. During physical examination in the Emergency Room she deteriorated rapidly and became comatose with development of decerebrate posture. She was Grade IV clinically according to the Hunt and Hess criteria. Computed tomography (CT) revealed a bilaterally subdural hematoma on the cerebral convexities and the acute intraparenchymal hematoma in the right temporal region (Fig 1). Skull x-rays were normal.

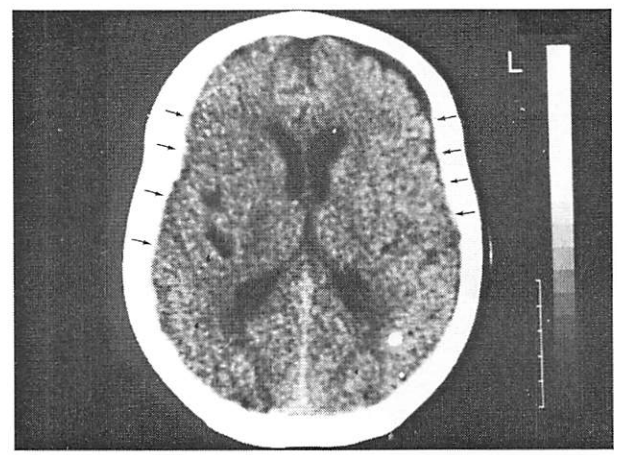

Fig.1. Noncontrast axial CT reveals bilateral acute subdural hematoma on the cerebral convexities (arrows).

Her coagulogram was in normal values. Her clinical progression was good and she improved to Grade I within ten days with conservative treatment. Digital subtraction angiography (DSA) showed a saccular aneurysm that is projecting from posterior communicating artery (Fig 2). Patient was operated on the day 13 of onset. The aneurysm was successfully clipped without any complication. The patient was discharged from hospital with mild amnesia without any major n eurological deficit.

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Fig.2. Digital subtraction angiography shows a saccular aneurysm projecting from posterior communicating artery (arrow).

DISCUSSION

Acute spontaneous subdural hematoma or "non-traumatic" acute subdural hematoma is rare (2, 3). ASSDH could develop secondly from vascular pathological lesions such as intracranial ruptured aneurysms, arteriovenous malformations or ruptured cortical arteries (4-6). Hematologic disorders, neoplasms, dural arterovenous fistulas, cerebral amyloid angiopathy, anticoagulant and thrombolytic therapy, hypertensive cerebral hemorrhage and acquired immune deficiency syndrome are the other possible causes of ASSDH (5).

Subdural hematoma has been noted in approximately 3% of aneurysm rupture (3). In the majority of cases in the literature, ASSDH is related with ruptured aneurysms of middle cerebral artery (1), anterior cerebral artery (1, 7). Also, there are reports about ruptured internal carotid artery aneurysm and ruptured vertebral artery aneurysm that cause ASSDH (7, 8). Russeger et al. (9) reported that 70% of acute subdural hematomas that related with aneurysm rupture were associated with middle cerebral artery or internal carotid artery. We found three cases of posterior communicating artery aneurysm that cause subdural hematoma in the literature (1, 10). Subdural hematoma was on the right hemisphere in two cases and left in one case. In our case, contrarily, posterior communicating artery aneurysm caused bilateral ASSDH. We found only one case of aneurysm rupture which causes bilateral ASSDH in the literature. Hatayama et al. (11) reported a case of acute subdural hematoma on the bilateral parietal convexities associated with a distal anterior cerebral artery aneurysm. We did not found any posterior communicating artery aneurysm that causes acute bilateral subdural hematoma in the literature.

There are possible mechanisms that clarify bleeding into the subdural space in an aneurysm rupture. Kondziolka et al. (1) reported two mechanisms that could be explain the occurrence of acute subdural hematoma after aneurysm rupture. First, aneurysm may be adherent to the arachnoid and because of this may bleed directly into the subdural space. Second, pia-arachnoid rupture may be the cause of subdural or intracerebral hematoma. Hashizume et al. (12) reported that small bleedings may allow the aneurysmal dome to develop adhesions to the arachnoid membrane, and final rupture will occur into the subdural space, resulting in a subdural hematoma. In the case presented by Hatayama et al. (11), bilateral spread of bleeding could be explained by the localization of the aneurysm. In our case, right-sided posterior communicating artery aneurysm was possibly adherent to the membrane of Liliquist and ruptured into both right carotid cistern and into interpedinculer cistern. We might explain how this hematoma bled into a midline cistern, interpedinculer cistern, but we could not explain the possible mechanism of spreading into the subdural space bilaterally.

In the absence of head trauma, acute subdural hematoma is needed to be evaluated carefully to explain the cause of the pathology. Clinician must keep on mind that the possible cause of ASSDH can be rupture of an aneurysm. At this point, further neuroradiologic investigations such as digital subtraction angiography are crucial

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