Intracranial arachnoid cyst rupture

The rupture of an intracranial arachnoid cyst can produce a subdural hygroma and intracranial hypertension. The latter mandates emergent drainage of the subdural space. In patients in whom the basal cisterns are not dilated by cyst rupture, both the MFACs and hygromas resolve after subdural drainage.

Case reports

A previously healthy 14-month-old male who presented to the Emergency Department with vomiting after a fall and was found to have esotropia without other focal neurological deficits and a CT scan consistent with a subdural cerebrospinal fluid collection with midline shift. The patient was treated conservatively and his symptoms resolved.

Arachnoid cyst rupture is a rare complication which can lead to increased intracranial pressure with devastating consequences. Clinical manifestation can be similar to that of other intracranial pathologies. Prompt diagnosis is required to avoid life-threatening symptoms.

Intracranial arachnoid cyst rupture should be considered when evaluating patients with non-specific neurological symptoms following trauma [1].

A case of an asymptomatic arachnoid cyst with rupture into the subdural space bilaterally and presenting as raised intracranial pressure [2]

Five male patients ranging in age from 6 to 25 years sustained the rupture of arachnoid cysts, which produced acute subdural hygromas. Four of the patients had incurred blunt head trauma. All patients presented with symptoms referable to intracranial hypertension. The pathognomonic features of a middle fossa arachnoid cyst (MFAC) were noted on the computed tomographic scans and/or magnetic resonance images of each patient. The hygroma exerted mass effect on the ipsilateral hemisphere and was noted to be under significant pressure at the time of surgical intervention in each case. Two of the five cases are unique in the literature. In one, a coexisting quadrigeminal cyst ruptured, producing a subdural hygroma ipsilateral to the MFAC and dilating the basal cisterns. In the other, the MFAC ruptured into the basal cisterns as well as into the subdural space. The MFAC in each of the remaining three patients ruptured into the subdural space alone. All patients were treated with drainage of the subdural space. In the two patients in whom the basal cisterns were involved, both the hygromas and the MFACs failed to change significantly in size. The hygromas resolved completely and the MFACs decreased in size considerably in the three patients without cisternal involvement.

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1)

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2)

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3)

Albuquerque FC, Giannotta SL. Arachnoid cyst rupture producing subdural hygroma and intracranial hypertension: case reports. Neurosurgery. 1997 Oct;41(4):951-5; discussion 955-6. doi: 10.1097/00006123-199710000-00036. PMID: 9316060.