Meningioma Associated With Acute and Chronic Subdural Haematoma: A Case Report

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✔ A 48-year old woman presented with confusion, haedache and mild right hemiparesia. Computerized, tomography scan showed a meningioma associated with frontoparietal acute and chronic subdural haematoma (SDH). Magnetic Resonance Imaging revealed a parasaggital tumour with ipsilateral acute and chronic SDH. Emergent craniotomy was performed and meningioma with SDH was removed. The operative and histological findings indicated that the tumoral tissue was the source of SDH.

Key words: Meningioma, subdural haematoma, surgical treatment

J Nervous Sys Surgery 2008; 1(3):169-172

Akut ve Kronik Subdural Hematomla Birlikte Görülen Menenjioma: Bir Olgu Sunumu

✔ 48 yaşında kadın hasta konfüzyon, başağrısı ve hafif sağ hemiparezi şikayetleri ile müracaat etti. Bilgisayarlı Tomografi (BT) sol frontoparietal akut ve kronik subdural hematom (SDH) ile birlikte olan menenjiomayı gösterdi. Manyetik Rezonans Görüntüleme (MRG) akut ve kronik SDH ile birlikte aynı tarafta olan parasagittal yerleşimli tümörü açığa çıkardı. Acil kraniotomi yapıldı ve SDH ile birlikte olan meninjioma boşaltıldı. Operatif ve histolojik bulgular SDH kaynağının tümöral doku olduğunu gösterdi.

Anahtar kelimeler: Menengioma, subdural hematom, cerrahi tedavi

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Haemorrages associated with intracranial neoplasm are rare events. The incidence of spontaneous haemorrhage has been reported in approximately 4 % of all tumours, more in malignant patology such as glioblastomas, oligodendrogliomas or metastatic carsinomas [2,7,8-10].

Benign intracranial tumours like meningiomas rarely present with haemorrhage, and the incidence is about 1.3 % of all meningiomas [2,7-9]. Haemorrhage associated with meningiomas may remain confined within the the tumour itself or within the surroinding brain parenchyma or extend into the subarachnid space. In such a case, the bleeding may result in a mere subarachnoid haemorrhage (SAH) or present as a SDH, after having penetrated the arachnoid membrane. Acctually, SAH is the most common location followed by the intracerebral and intratumoral location [3,6-9,14]. The occurence of isolated SDH is very rare [14].

In this article, a rare case of fronto-parietal convexity menengioma associated with in both acute SDH and crhonic SDH is reported.

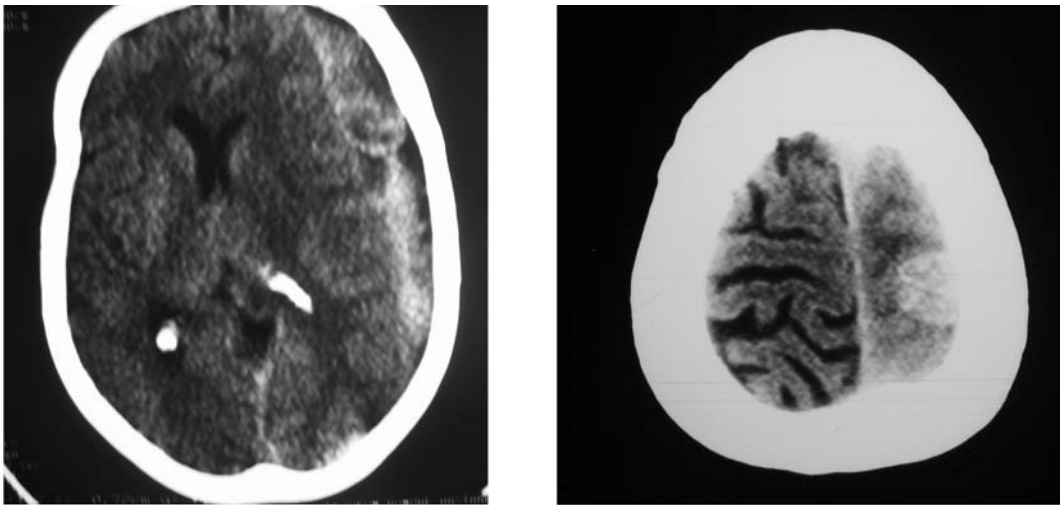

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Figure 1. Axial non-contrast-enhanced computed tomography shows left subdural hematoma with acute and subacute components (a). Contrast-enhanced CT section through the vertex reveals a homogeneously enhanced hyperdense lesion in consistence with menengioma (b).

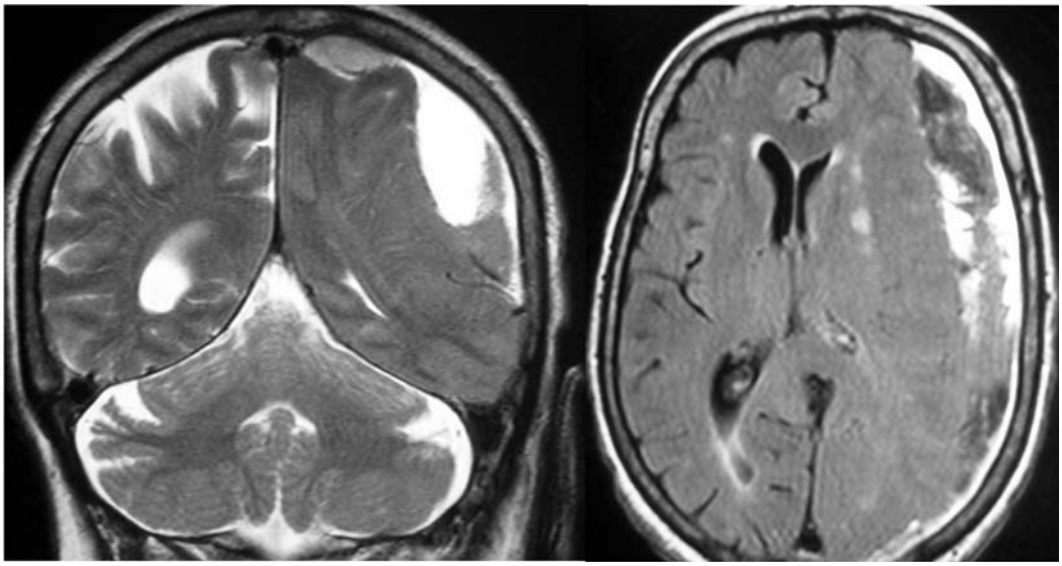

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Figure 2. Turbo spin-echo T2-weighted coronal MR image shows hypointense menengioma and subdural hematoma with different types of hemorrhagic elements within it (a). Axial FLAIR image also reveals different hemorrhagic elements within left parietal subdural hematoma (b).

CASE REPORT

The 48- year old woman was admitted to our clinic in July 2005 with a long history of headache, complicated within two weeks before admission by a right hemiparesis and confusion. There was no history of trauma and she did not receive any anticoagulant therapy. On clinical examination the patient's conscience was confused and she was normotensive. Hemiparesis was observed in her right extremities with an ipsilateral Babinsky sign. Plain cranial roentgenograms yielded normal findings with no fracture lines or calcified lesion. CT showed a left fronto-parietal acute SDH and SDH associated with frontal intracerebral meningiom on the same side. MRI revealed subdural collection with both hypointense and hyperintense componently

associated with frontal meningiom. The patient was operated urgently. A large partially liquefied subdural clot was evacuated by craniotomy. In addition, the meningioma was totally resected. Histological investigation cofirmed that tumor was a transitional menengioma. The patient recovered completely.

DISCUSSION

Spontaneous haemorrhage in meningioma is uncommon and is not related to sex, age, blood dyscrasia, hypertension, or tumour location [2,4-6].

Hemorrhage associated with meningoimas occurs in less than 2 % of all brain tumours. This may take the form of either subarachnoid, intracerebral, intratumoral, intraventricular or subdural bleeding [2,7-9,15]. The most common type of bleeding is SAH followed by intracerebral hemorrhage and antitumoral hemorrhage [2,5,6-9]. The presentation of a meningioma with SDH is less common. In 1994, Popovic et al [13] reviewed a total of 41 cases of meningioma associated with SDH published in literature. Particularly, meningiom within both acute and chronic compenents of SDH is extremely rare in literature like bilateral chronic SDH [1]. Our case had a meningioma associated with both acute and chronic components of SDH. According to our literature survey, this case is the first diagnosed one.

The pathophysiological mechanisms of bleeding in meningiomas are not fully understood. Several hypotese; including excessive or unusual blood vessels, direct vascular invsion by the tumour cells, extensive tumour infarction, stretching and rupture of subdural veins and the fragility of arterial and venous walls due to rapid tumour growth have been proposed [10,16]. The most common hypothesis is the rupture of the excessive or the unuual blood vessels [2]. This is based on histological findings such as weak thin-walled vessels or direct peritumoral vascular erosion by the tumour. However, only a few of the tumours show abnormal vasculature bleeding [6,12].

The prognosis of patients with meningioma associated acute hemorrhage is generally poor. Approximately half of such patients die irrespective of hemorrhage type. Factors responsible for the morbidity and mortality have not been precisely identified. However, the most frequently reported factor affecting prognosis is the clinical state of the patient at onset. Surgical intervention must be performed with meningiom associated haemorrhage because even minor hemorrhages cause rapid increases in intracranial pressure. This condition often occurs particularly in patients with larger tumour [11].

In conclusion, meningiomas associated with SDH are extremely rare. The detection of SDH in abscence of trauma necessitates the exclusion of a vascular anomaly or a tumour. Surgical exploration, whenever necessary, should be conducted before irreversible brain damage has occured.

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