Case Report

Ossified Chronic Subdural Hematoma Which is Present With Epilepsy

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Summary

Chronic subdural hematoma may rarely result in ossification during the long term follow up period. Cases are usually asymptomatic. On the other hand, in rare cases, neurologic deficit due to mass effect or epilepsy may be the presenting symptoms. In this paper, a 52-year-old patient with chronic ossified subdural hematoma with epilepsy was presented. Surgical treatment was carried out.

Key words: Epilepsy, Subdural hematoma, Ossification

INTRODUCTION

Ossified chronic subdural hematoma is a rare clinical case emerging as a long-term complication of chronic subdural hematoma. In addition to being asymptomatic, it could also be present with serious symptoms. The decision for surgical treatment is given by taking the patient's neurological status, symptoms, computed tomography (CT) and magnetic resonance imaging (MRI) findings into consideration. In this article, we are presenting an ossified chronic subdural hematoma case with epilepsy complaint and a shift in MRI.

CASE PRESENTATION

52 year old male patient with a headache on the left side for 3 months and 3 epileptic seizures in the last week came to neurology clinic. In his medical history, due to injury in a traffic accident, a head trauma dealt with conservative treatment. Hypertension and bleeding disorders have not been detected. The physical and neurological examination of the patient is normal. The case was interpreted as epidural hematoma (Figure 1).

The patient was applied left parietal craniotomy. No pathology was encountered in epidural space. Under Duramater, a mass of very hard consistency was palpated. When the dura is opened, thick-walled mass of brown-green color was encountered in subdural space (Figure 2).

As the mass could not be taken out of craniotomy limits, bone flap was expanded with craniectomy and the mass was taken out totally. The portion of the mass...
adjacent to the surface of the brain was taken out easily. The pathology of the mass was reported as cystic-walled calcified subdural hematoma which is colloid-rich and ossified.

The patient with postoperative epileptic seizures was given levetiracetam 2x500 mg and valproate 2x500 mg and then seizures were kept under control. In the postoperative 4th month, the bone defect was closed with cranioplasty (Figure 3). The use of antiepileptic drugs was stopped after the postoperative six months. No epileptic seizures happened afterwards.

**Figure 1:** 6 mm shift due to mass effect in T1 graded MRI

**Figure 2:** Peroperative photograph of the patient
DISCUSSION

Chronic subdural hematoma is subdural collections of blood and serum which usually seen after head trauma, chronic alcoholism, anticoagulant therapy and thrombocytopenia\(^{(5)}\). Calcified chronic subdural hematoma is a long term complication of the chronic subdural hematoma.

Calcified chronic subdural hematoma was first defined by Rokitansky\(^{(19)}\) in the case of an autopsy, and the first surgical resection was performed by extraction Goldhahn\(^{(4)}\).

Calcified chronic subdural hematoma is a very rare clinical condition seen in the 0.3 to 2.7 % of chronic subdural hematoma patients\(^{(16,18,22)}\).

It has been discussed in the literature that the calcification development mechanisms could be decreased circulation and absorption in subdural area, vascular thrombosis, local factors, metabolic predisposition, head trauma, subdural effusion after meningitis and long term complications of patients who were applied shunt for hydrocephalus\(^{(1,2,8,10,17)}\).

A minor head trauma that occurred three years ago was present in our case. Calcifications after chronic subdural hematoma usually develops within 6 months whereas ossification occurs in a few years that follow\(^{(12,17)}\).

When the calcified part covers the surface of the brain, it is called as armored brain and in this case, the dura could be tightly adherent to the brain\(^{(1)}\). Dissection of the lesion from the brain may cause brain contusion or hemorrhage. Therefore removal of these lesions in asymptomatic patients is not required or useful. However, meticulous surgical technique recommends for patients with progressive neurological deficits or symptomatic epilepsy\(^{(17)}\). If calcified parts could not be dissected from the brain surface, we believe that should not be insisted. In our case, the mass was easily separated from the surface of the

*Figure 3: Postoperative 4th month CT of the patient*
brain through dissection as there was not any adhesion.

Mental retardation, behavioral disorders, and epileptic attacks are seen in childhood\(^{10,21}\) whereas symptoms such as headache caused by increased intracranial pressure, confusion, epilepsy, mental retardation, amnesia, hemiparesis and dizziness can be seen in later years, depending on place of residence\(^3,6,12,17\).

Asymptomatic calcified chronic subdural hematomas were discussed in the literature\(^ {6,9,14,15,20}\). Surgical treatment is often recommended in patients with progressive neurological disorder, or increased intracranial pressure\(^ {13,20,21}\). If cerebral compression diagnosed by MRI, should be operated due to future possible brain injury in asymptomatic non-elderly patients with chronic calcified subdural hematoma\(^1\). Mori et al reported that expanding hematoma and neurologic deterioration in 5 years old child with asymptomatic chronic calcified subdural hematoma\(^{13}\). Per et al also reported that calcified chronic subdural hematomas growing actively as a neoplasm and causing neurological disorders\(^{17}\). In our case, there was no neurological disorder except for headache and epilepsy. Although there are some articles indicating that there is no benefit in surgical treatment for calcified chronic subdural hematomas\(^{10}\), there are also studies indicating improvement in neurological damage with surgical treatment\(^{21}\).

İplikçioğlu and colleagues reported that epileptic seizures had been brought under control in a 13-year-old male patient with surgical treatment although there had been no improvement in neurological damage\(^7\). In our case, epileptic seizures were brought under control after surgery and headaches improved.

CONCLUSION
As discussed in the literature, we conclude that asymptomatic patients can be monitored through regular follow-ups but that symptomatic ossified chronic subdural hematoma patients with epilepsy or neurological deficits must be treated surgically. In case of adhesion to the brain surface, meticulous surgical dissection should be performed. Whereas, if it is considered to be brain contusion or hemorrhage dissection should not be forced.

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