

**Olgu sunumu / Case
report**

**DEVELOPMENT OF CONTRALATERAL EPIDURAL HEMATOMA AFTER THE
SURGERY FOR A GIANT HYDATID CYST: A CASE REPORT**

Kağan Kamaşak^{}, Seyit Kağan Başarslan^{**}, Cüneyt Göçmez^{*}, Adnan Ceviz^{*}*

^{}Department of Neurosurgery, Dicle University, School of Medicine, Diyarbakır, Turkey*

*^{**}Department of Neurosurgery, Mustafa Kemal University, School of Medicine, Hatay, Turkey*

Abstract

Delayed epidural hematoma is an uncommon finding in patients after intracranial mass evacuation. It occurs in 6.7-7.4% of cases. A total of 29 reports were found in literature. Among them, no cases of delayed contralateral EDH were due to intracerebral hydatid cyst evacuation. This paper represents a clinical case of a 14-year-old male patient with huge hydatid cyst who underwent left frontoparietal lobe intracerebral hydatid cyst surgery. Next day, a contralateral epidural hematoma was revealed and successfully treated by the conservative treatment via close observation. Contralateral epidural hematomais a life - threatening neurosurgical emergency case, which can occur during first 24 hours after decompressive effects of the cyst removal. Control brain CT scans should be performed next day after the operation to verify and treat these hematomas timely.

Key Words: Hydatid cyst, contralateral epidural hematoma

Geliş Tarihi / Received: 14.10.2013, Kabul Tarihi / Accepted: 23.11.2013

INTRODUCTION

The occurrence of a contralateral epidural hematoma (CEDH) following removal of an intracranial cysts a rare but may be nearly devastating postoperative complication. It develops in 7.4% of cases after decompressive surgery. CEDH is a well-described complication, especially following a large size mass evacuation in brain (1). In some series contralateral EDH are found in 6.7% cases (2,3). There were no reports found in literature about developed CEDH after intracerebral cyst removal. Here, we describe a case with CEDH to elucidate the characteristics and to improve management of these patients.

CASE

We present a child of 14-year-old who had an intracranial huge mass. She was in a good general state of health, fully conscious and oriented, and neurological examination detected no any neurological findings. Biochemical analysis revealed no hemorrhagic diathesis. The initial diagnosis was set up by radiological examination and confirmed by serological tests as a hydatid cyst. MRI scans of the skull with and without contrast showed well-defined very large sized, extra axial cystic and non-enhancing lesions, extending from left frontal region to the occipital (Figure 1a,b,c).

After written her consent letter, she was operated on by a left fronto-temporo-parietal craniotomy. The cyst was removed by the Dowling-Orlando technique with the aid of gravity without rupture (4). After proper bleeding control, the dura was sutured firmly with 3.0 silk. Drainage was placed between the dura and bone structure, and securely attached. The drain is opened without negative pressure soon

after the scalp sutured. The next day, at the controlateral side of surgery in 18 mm diameter epidural hematoma was detected by a computerized tomography (fig.2). This hematoma possibly occurred by brain displacement with the consequent reduction in intracerebral pressure due to the removal massive size cysts. A second surgery for the hematoma was not considered in aspect of not forming shift effects in the brain.



Figure 1. Primary multiple unifocal hydatid cyst, in which there are multiple cysts close together in MRI of the brain, shows hypo intense, well-defined, smooth edged lesion in T1W (a). MRI scan of head shows multiple cerebral cysts on sagittal plan (1b). Note a huge mass occupying multiple lobes (1c) becoming hyper intense in T2W with pressure effect on the ventricles but no hydrocephalus and no surrounding edema.

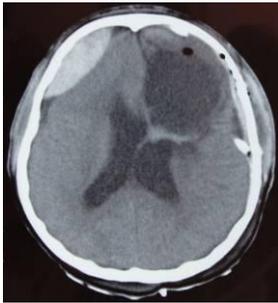


Figure 2. Postoperative first day, CEDH was observed on a control CT scan. The conservative treatment was preferred to second surgery due to absent of the shift effect in midline and well neurological status of patient.

DISCUSSION

CEDH is an uncommon finding in patients after intracranial mass debulking or removal. It develops in 7.4% of cases after decompressive surgery (3). There were no reports found in literature about CEDH after removal of huge size of cyst hydatid.

The pathophysiology of the controlateral EDH after space-occupying lesions is not much controversial. It can be prevented by simple measures. In most cases the potential source of the bleeding exists at the time of the surgery. Lowering high ICP with removal of space - occupying mass causes brain shrinkage, and decompression of controlateral vessels give rise to bleeding as a consequence of decreased ICP (6).

Prompt detection of acute contralateral EDH in these patients is of critical importance since its treatment will lead to a more efficient ICP management that is directly related to the patient outcome.

Neurological deterioration due to EDH rather than parenchymal brain surgery is related to better long-term outcome in these patients (5).The treatment of CEDH is done according to the CT findings. In the present case, the blocking the brain drainage that causes increased intracranial pressure inhibited the enlargement of CEDH.

CONCLUSION

The reduction of intracranial pressure by removing the intracranial cyst hydatid is a predisposing factor for development of CEDH. It is recommended to perform CT scans during the first day after surgery to exclude CEDH development, which can cause devastating consequences. The evolution of contralateral hematomas should always be taken into consideration after removal of space occupying lesions in brain. A high degree of clinical suspicion is mandatory to confer best outcome to these patients.

REFERENCES

1. Fridley J, Thomas J, Kitagawa R, Chern J, Omeis I. Immediate development of a contralateral acute subdural hematoma
2. Ban M, Agawa M, Fukami T. Delayed evolution of posttraumatic contralateral extracerebral hematoma after evacuation of initial hematoma. *Neurol Med Chir (Tokyo)* 1991;31:927–30.
3. Yang XF, Wen L, Shen F, Li G, Lou R, Liu WG, et al. Surgical complications secondary to decompressive craniectomy in patients with a head injury: A series of 108 consecutive cases. *Acta Neurochir (Wien)* 2008;150:1241–7.
- 4-Özkan Ü, Kemaloğlu MS, Selçuki M. Gigantic intracranial mass of hydatid cyst. *Childs Nerv Syst.* 2001 Oct;17(10):623-5.
5. Shen J, Pan JW, Fan ZX, Zhou YQ, Zhan RY. Surgery for contralateral acute epidural hematoma following acute subdural hematoma evacuation: Five new cases and a short literature review. *Acta Neurochir (Wien)* 2013;155: 335–41.
- 6.Mokri B. The Monro-Kellie hypothesis: applications in CSF volume depletion. *Neurology* June 2001, 56 (12): 1746–8.