

Acute epidural hematoma manifesting with monoplegia in a child: Case report

Çocuk hastada monopleji ile belirti veren akut epidural hematom: Olgu sunumu

Hakan Ak¹, Sadiye Yolcu², Özlem Balbaloğlu³

ABSTRACT

A seven year-old girl presented with left sided painless monoplegia at the lower extremity after falling from two meters height. Cranial computed tomography showed right sided fronto-parietal epidural hematoma. Urgent decompressive craniotomy for the evacuation of the hematoma was performed. Patient discharged two weeks after admission with minimal loss of muscle strength. Fronto-parietal epidural hematomas may also manifest with monoplegia and early evacuation should be standard management. *J Clin Exp Invest* 2013; 4 (2): 223-225

Key words: Epidural hematoma, monoplegia, computed tomography

INTRODUCTION

Epi/extradural, hematoma (EDH) is defined as the collection of blood between the skull and dura mater [1,2]. EDH mostly results from injury of the middle meningeal artery. Also, injury of the middle meningeal vein, diploic veins, or dural venous sinuses may lead epidural hemorrhage [3]. Early diagnosis and surgical evacuation is the key point of the management of these hematomas. With the advent of computed tomography, morbidity and mortality of EDH significantly decreased [4]. EDH may manifest with many different clinical signs and symptoms [3]. Loss of muscle strength is seen usually as hemiparesis in this pathology [5-8]. However, monoplegia associated with EDH is very rare and literature reveals only one case that had vertex hematoma [9].

We describe a case of painless monoplegia in child with fronto-parietal epidural hematoma. Patient discharged without any neurological deficit with early evacuation of the hematoma and physical therapy and rehabilitation.

ÖZET

Yedi yaşında kız çocuğu yaklaşık iki metrelik yüksekten düşme sonrası sol bacakta ağrısız kuvvet kaybı ile başvurdu. Hastanın beyin tomografisinde sağ fronto-paryetal bölgede epidural hematoma tespit edildi. Hematom acilen yapılan kraniyotomi ile boşaltıldı. Hasta yaklaşık iki haftalık takip sonrası çok az kuvvet kaybı ile taburcu edildi. Fronto-paryetal yerleşimli epidural hematomlar monopleji ile de belirti verebilirler ve erken cerrahi sağaltım bu hematomlara yaklaşımda standart tedavi olmalıdır.

Anahtar kelimeler: Epidural hematoma, monopleji, bilgisayarlı tomografi

CASE

7 year-old girl admitted to emergency room with painless left lower extremity monoplegia. She fell from about 2 meters height nearly 30 minutes ago. Patient was suffering from mild headache and nausea but there was no history of vomiting, unconsciousness, or seizure. In physical examination only a small area of scalp edema and ecchymosis were seen on the right frontal area. Neurological examination revealed that muscle strength was 0/5 and deep tendon reflexes were increased at the left lower extremity. Other neurological system examinations were normal.

Although no description of pain, radiographs of the related extremity were taken and they showed no fractures. Computed brain tomography showed epidural hematoma at the right fronto-parietal lobe on the high convexity (Figure 1). Patient underwent prompt surgical decompression. In the operation, no arterial source of bleeding was seen. Skull fracture was not observed. Hematoma was evacuated and homeostasis was provided by bipolar cauter-

¹ Department of Neurosurgery, School of Medicine, Bozok University, Yozgat, Turkey

² Department of Emergency Medicine, School of Medicine, Bozok University, Yozgat, Turkey

³ Department of Clinic of Physical Therapy and Rehabilitation, School of Medicine, Bozok University, Yozgat, Turkey

Correspondence: Hakan Ak,

Bozok University, School of Medicine, Department of Neurosurgery Yozgat, Turkey Email: nrsdrhakanak@yahoo.com

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ization of the venous structures on the dura matter. After surgical decompression, muscle strength level became 3/5 in the early period. Physical therapy and rehabilitation were started two days of after

operation. Stretch exercise and functional electrical stimulation was performed for 10 days. Patient was discharged with only slight loss of muscle strength during dorsiflexion of foot.

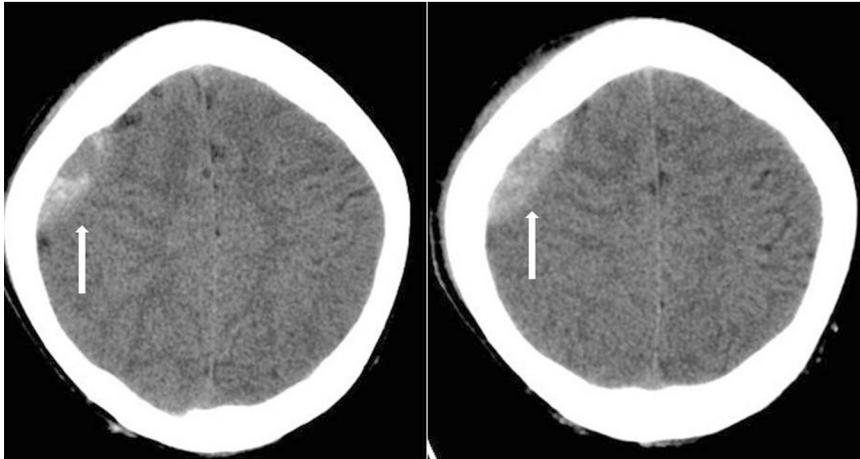


Figure 1. Brain CT showing epidural hematoma at the right fronto-parietal lobe on the high convexity (white arrow).

DISCUSSION

Epidural hematoma (EDH) is one of the most common causes of death after traumatic brain injury. In spite of representing about 1% to 5.5% of traumatic cranial lesions, mortality rate reaches 20% in EDH [3]. Although mostly known cause of EDH, middle meningeal artery, we did not see any arterial bleeding. There were only small bleeding sites on dura matter indicating venous sinuses.

Falls are the most common cause of EDHs in pediatric age group. Other causes may be listed as traffic accidents, domestic aggression, and forced delivery maneuver in descending order [6]. The most common location of the EDH is the temporo-parietal region [5].

The clinical signs and symptoms of EDH may vary from headache to coma. Most of the patients having EDH manifest with altered sensorium. Headache and vomiting is the second most common clinical symptoms on admission [6,7]. Other signs or symptoms include lucid interval, papillary abnormalities, hemiparesis, decerebration, and seizures, heart rate, respiration and blood pressure changes (Cushing reflex) [5-8]. When talking about EDH, the term of 'lucid interval' comes to our minds. It means that a patient initially unconscious, then wakes up and secondarily deteriorates. Lucid interval was observed in 20% to 47% of patients undergoing surgery for EDH [5,6]. Loss of muscle strength in patients with EDH generally was been observed as hemiparesis [5-8]. However, monoplegia in EDH had been reported just in one patient with vertex hematoma [9]. We could not explain the mechanism

of development of monoplegia in our case with only hematoma. Because the hematoma was located on frontoparietal region and motor cortex sub serves arm and hand in this localization. Probably, there was a contusion at capsula interna on admission; however, we did not see it on computed tomography. Increased intracranial pressure might augment the effect of contusion and lead to monoplegia. We think that prompt evacuation of hematoma might decrease this pressure related effect, so we saw the rapid resolution of the monoplegia just after operation.

In conclusion, EDH may also manifest with monoplegia and prompt evacuation of it may decrease the morbidity.

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