

A Case of Late Hemorrhagic Disease Operated Due to the Appearance of a Cerebral Mass

Serebral Kitle Görünümünden Dolayı Ameliyat Edilen Geç Hemorajik Hastalık Olgusu

Mehmet DAVUTOĞLU, MD,^a
Ekrem GÜLER, MD,^a
Hamza KARABİBER, MD,^a
Mesut GARİPARDIÇI, MD,^a
Zafer YÜKSEL, MD,^b
Mürvet YÜKSEL MD^c

Departments of ^aPediatrics,
^bNeuro Surgery, ^cDiagnostic Radiology,
Kahramanmaraş Sütçü İmam
University Faculty of Medicine,
Kahramanmaraş

Geliş Tarihi/Received: 01.07.2008
Kabul Tarihi/Accepted: 14.07.2008

Yazışma Adresi/Correspondence:
Mehmet DAVUTOĞLU, MD
Kahramanmaraş Sütçü İmam
University Faculty of Medicine,
Department of Pediatrics,
Kahramanmaraş,
TÜRKİYE/TURKEY
drmdavutoglu@hotmail.com

ABSTRACT Intracranial hemorrhage due to late hemorrhagic disease (HD) caused by vitamin K deficiency has been recognized as a serious cause of morbidity and mortality. Late HD most commonly manifests as intracranial hemorrhage. However, radiological image of the bleeding as a well-circumscribed mass mimicking a tumor is unusual. We report a 5-month-old girl with intracerebral hemorrhage due to late HD and previously diagnosed as cerebral mass. The intracerebral hemorrhage had an image of well-circumscribed mass and therefore thought to be a cerebral mass at the beginning. Reviewing the literature, only one case of intracerebral hemorrhage with a well-circumscribed mass image was found similar to our case. Late HD should always be kept in mind in infants who had been given wide spectrum antibiotics, had prolonged gastroenteritis and nutritional deficiency, with an image of intracranial mass.

Key Words: Hemorrhagic disease, intracerebral hemorrhage, mass spectrometry

ÖZET K vitamini eksikliğinin neden olduğu geç hemorajik hastalığa bağlı gelişen intrakraniyal kanama, ciddi mortalite ve morbidite nedeni olarak tanımlanmaktadır. İntrakraniyal kanama geç hemorajik hastalığın sık görülen bir bulgusudur. Ancak, intrakraniyal kanamaların düzgün sınırlı kitleye benzer bir görünüm vermesi beklenen bir bulgu değildir. Çalışmamızda, serebral kitle görünümü nedeniyle ameliyat edilen geç hemorajik hastalığa bağlı intrakraniyal kanama tespit edilen 5 aylık kız çocuğunu sunduk. Olgumuzda kanama düzgün sınırlı kitle görünümü vermemekteydi. Literatür incelendiğinde düzgün sınırlı kitle görüntüsü veren intrakraniyal kanamaya bir olguda rastlandı. Geniş spektrumlu antibiyotik kullanan, uzamış ishali ve beslenme yetersizliği olan süt çocuğunda düzgün sınırlı kitle görüntüsü veren intrakraniyal kanamalarda geç hemorajik hastalık mutlaka düşünülmelidir.

Anahtar Kelimeler: Hemorajik hastalık, intrakraniyal kanama, kitle spektrometri

Türkiye Klinikleri J Med Sci 2010;30(3):1084-6

Hemorrhagic disease (HD) of the newborn caused by vitamin K deficiency has been recognized as a serious cause of morbidity and mortality. It is classified into three groups: early, classic and late HD. Early HD is seen within 24 hours of birth in infants whose mothers have been on antiepileptic or antituberculosis therapy during pregnancy. Classic HD occurs between the second and fifth days of life, with most of the cases being idiopathic. Late HD is characterized by hemorrhage in infants aged 1 week to 6 months due to severe vitamin K deficiency, but can occur anytime in the first year, occurring almost exclusively in breastfed infants.¹⁻³

We report a 5-month-old girl with intracranial hemorrhage due to late HD who was previously diagnosed as cerebral mass because of a radiological image of a well-defined mass and operated urgently. The case is discussed in the light of the literature.

CASE REPORT

A 5-month-old girl was admitted to the Department of Pediatrics, with a one-month history of gastroenteritis, vomiting, poor feeding, pallor and malnutrition. There were no ecchymoses, petechiae or signs of abuse. She was born at preterm (34 weeks gestation) in a state hospital by normal vaginal delivery, with a birth weight of 2200 g. It was not clearly known whether she received vitamin K after delivery in that hospital. She was administered a one-week wide-spectrum antibiotic two weeks before her admission. She was exclusively breastfed, and no further vitamin supplementation was provided. There was no history of bleeding or hemorrhagic diathesis in the other members of her family. Vital signs were: body temperature 37.7°C, blood pressure 70/40 mmHg, heart rate 148 beats/min, and respiratory rate 46 breaths/min. Her weight was 3950 g (3%), height was 51 cm (3%) and head circumference was 38 cm (3%). The baby was irritable, pale and her turgor-tonus was decreased. Cranial computed tomography (CT) was taken because anisocoria and bulging of the anterior fontanelle. Non-contrast CT scan demonstrated a large heterogeneous hemorrhagic parenchymal lesion in the left temporoparietal region with hypodense perifocal edema and displacement of the midline structures to the right side due to mass effect. In addition, a hyperdense acute subdural hematoma next to the parenchymal lesion and an epidural hematoma in the left frontal region were seen (Figure 1). Laboratory investigations were as follows: Hemoglobin: 5 g/dL, hematocrit: 14%, white blood cell count: 6400/mm³, platelet count: 365000/mm³, prothrombin time: 55 sec (11-15 sec), activated partial thromboplastin time: 73 sec (25-35 sec). Alkaline phosphatase, albumin, aspartat aminotransferase, alanin aminotransferase, fibrinogen concentration and fibrin



FIGURE 1: Non-contrast CT scan revealed hemorrhagic parenchymal lesion in the left temporoparietal region with perifocal edema and associated with shift to the right. In addition, subdural and epidural hematoma in the frontal region was observed.

degradation products were within the normal levels. Liver and biliary ultrasound was performed to rule out cholestasis. The laboratory values before and after vitamin K administration suggested a late onset of hemorrhagic disease due to vitamin K deficiency. She was transfused one unit of packed red cells, fresh frozen plasma and 3 mg of intravenous vitamin K. Phenobarbital was initiated because of convulsion. She was consulted with the department of neurosurgery and operated urgently with the prediagnosis of an intracranial mass. However, the pathological diagnosis was inflammatory fibrous material and hemorrhage. She is now in follow-up and continues to do well.

DISCUSSION

Late HD is an important cause of mortality and morbidity. The prevalence of late HD ranges from 4.4 to 7.2 per 100 000 births, in reports from Europe and Asia.^{4,5} Late HD can be primary or may occur as a secondary manifestation of an underlying disorder. Causes of secondary late HD are chronic diarrhea, biliary atresia, cystic fibrosis, hepatitis, alfa 1-antitripsin deficiency, chronic warfarin exposure and abetalipoproteinemia.^{1,2,6} We have considered the history of gastroenteritis and

exposure of wide spectrum antibiotic as the cause of late HD.

Late HD most commonly manifests as intracranial hemorrhage. Almost 70% of the infants with late HD present with serious intracranial hemorrhage.^{7,8} Bor et al reported a series of late hemorrhagic diseases in 15 patients. In this study, neurologic findings were found in 11 (73%) patients, GIS findings were found in three (20%) patients and prolonged bleeding and ecchymosis were found in three (20%) patients.⁹

Subdural hemorrhage is the most common type of intracerebral hemorrhage reported, followed by subarachnoid hemorrhage.¹⁰ In other studies the rates of intracerebral, subdural, subarachnoid, and intraventricular hemorrhage were reported as 68, 57, 46, 25%, respectively.¹¹ The hemorrhage in our case was localized in the

epidural and subdural spaces and intracerebral region. The intracerebral hemorrhage had an image of well-circumscribed mass and therefore thought to be a cerebral mass at the beginning. There is one case report in the literature reporting an intracranial parietal mass in a term newborn that was due to chronic intracerebral hemorrhage of unknown etiology with perifocal extramedullary erythropoiesis.¹²

Late HD should always be kept in mind in infants who had taken wide spectrum antibiotics, had prolonged gastroenteritis, and had nutritional deficiency, with images of intracranial mass effect.

Acknowledgement

The authors would like to thank to Yakup Gümüşalan, MD for his invaluable linguistic contribution to the article.

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