

Postpartum cerebral vein thrombosis confused with encephalitis: A case report

Yasemin Cakir ^{1*}, Nevin Ince ², Nisa Unlu ³

¹ Ministry of Health Agri Dogubayazit Dr. Yasar Eryilmaz State Hospital, Department of Infectious Diseases and Clinical Microbiology, Agri, Turkey

² Duzce University Faculty of Medicine, Department of Infectious Diseases and Clinical Microbiology, Duzce, Turkey

³ Duzce University Faculty of Medicine, Department of Radiology, Duzce, Turkey

ABSTRACT

Objective: Cerebral vein thrombosis (CVT) is a rare disease that can mimic many diseases with its initial form and clinical findings. CVT is seen in all age groups, but especially young women in the peripartum and postpartum period are more frequently affected.

Case: 23-year-old female patient applied to the emergency service of an external center with complaints of sudden onset of headache and change in consciousness two weeks after giving birth by cesarean section. The patient, who was admitted to the intensive care unit with a preliminary diagnosis of encephalitis after having a seizure in the emergency room she applied. Then, she was transferred to our infectious diseases clinic for service follow-up as she no longer needed intensive care. Due to the lack of expected clinical improvement in our service follow-up, brain MRI was compatible with CVT.

Conclusions: The most common symptom in CVT is headache, and focal neurological findings may accompany the picture. This clinical picture it creates is similar to encephalitis.

Keywords: cerebral vein thrombosis, encephalitis, postpartum

Correspondence:

Yasemin Cakir, Spc. Dr.

Address: Ministry of Health Agri Dogubayazit Dr. Yasar Eryilmaz State Hospital, Department of Infectious Diseases and Clinical Microbiology, 04402, Agri, Turkey

Email: yasemincakir2553@gmail.com

INTRODUCTION

Cerebral vein thrombosis (CVT) is a cerebrovascular disease in which thrombosis occurs in the dural sinus or cerebral vein. CVT is a rare condition, but it is three times more common in women of reproductive age than men due to pregnancy and oral contraceptive use [1]. Headache is seen as the initial symptom in 60-90% of the patients. Focal or generalized seizures are other clinical findings.

With the initial form and clinical findings of CVT, it can create a similar picture with encephalitis and can be confused in the diagnosis. In this article, a case of postpartum CVT confused with encephalitis is presented.

CASE REPORT

While a 23-year-old female patient was hospitalized in the intensive care unit with the diagnosis of encephalitis, she was transferred to our infectious diseases clinic for service follow-up as she no longer needed intensive care. It was learned from the

patient's history that she had no known history of chronic disease, and she applied to the emergency service of an external center with complaints of sudden onset of headache and change in consciousness two weeks after giving birth by cesarean section. The patient, who was admitted to the intensive care unit with a preliminary diagnosis of encephalitis after having a seizure in the emergency room she applied to and was treated empirically with acyclovir 3×750 mg and ceftriaxone 2×2 gr, was on the seventh day of his treatment when she was admitted to our clinic. When the patient was taken over, she was conscious, had limited orientation and cooperation, and had occasional changes in consciousness. Acyclovir and ceftriaxone treatments, which were started in another center, were continued in our clinic. However, on the 10th day of the patient's antibiotic and antiviral treatment (the third day of our service follow-up), the patient was planned to undergo a lumbar puncture again, since the confusion continued and the herpes simplex virus (HSV) DNA PCR results from

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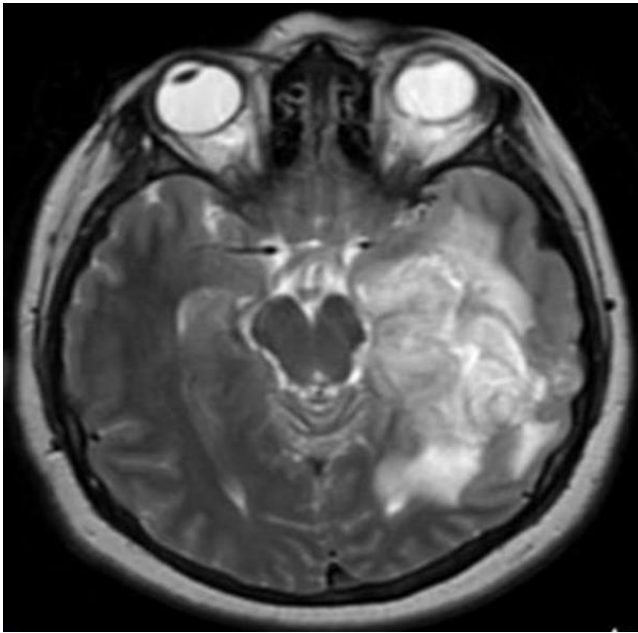


Figure 1. On the axial T2-weighted image, a large-sized infarct area with a heterogeneous hyperintense signal in left temporal region, surrounded by edema & a mass effect is observed (Source: MRI image of the authors' patient, reprinted with permission)

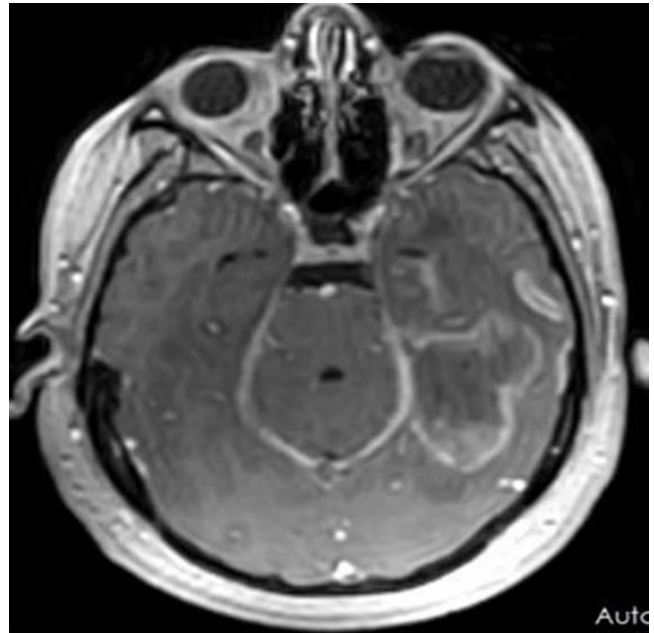


Figure 2. On the axial postcontrast T1 A image, it is observed that the infarct area shows peripheral contrast enhancement. In addition, thrombus is seen in the dural sinus & cortical vein (Source: MRI image of the authors' patient, reprinted with permission)

the cerebrospinal fluid were negative. In the brain CT performed before the puncture; Contrast-enhanced brain MRI was performed after the detection of “acute ischemia, with irregular borders, hypodense appearances were observed. In contrast-enhanced brain MRI, “about 6.5×4×4.5 cm in size, irregularly circumscribed, filling the medial part of the left temporal lobe, narrowing the left quadrigeminal cistern, compressing the left cerebral peduncle, pushing the midline structures to the right and causing sub-axial shift, peripheral irregularity in T1AG hyperintensities and post-contrast sections containing heterogeneous peripheral bleeding areas on T2AG, diffusion-weighted images showing contrast enhancement, especially peripheral, showed diffusion restriction and an appearance compatible with hemorrhagic infarct in central areas. The appearance was evaluated by radiologists as significant in favor of recanalized venous thrombus (**Figure 1** and **Figure 2**). Lumbar puncture was not performed on the patient due to cerebral shift and the current antiviral and antibiotic treatment was discontinued and the patient was consulted to neurology in terms of CVT. With the recommendation of neurology, MRI venography was performed, and the patient was transferred to the neurology clinic with the diagnosis of postpartum CVT. In the service follow-up of the patient, who was given coagulant and supportive treatments, his consciousness was restored, his general condition improved, and the patient was discharged on the 21st day of his total hospitalization.

DISCUSSION

Although CVT is a rare condition, it can affect any age group. However, unlike arterial cerebrovascular disorder, it often affects young adults and children [2]. The disease is more common in women than men, and young women in the peripartum and postpartum period are affected more frequently [3]. Pregnancy, puerperium, use of oral contraceptives, systemic inflammatory diseases, coagulation disorders, malignancies, trauma, and operations are common etiological causes of CVT [4].

Headache is the most common symptom in 95% of patients [5]. Other common symptoms of the disease are focal neurological deficits such as hemiparesis, speech disorder, and visual field loss. In advanced cases, status epilepticus can lead to coma and death. In the early period of diagnosis, the sensitivity of non-contrast brain CT is low, while MR venography is more sensitive in the acute phase [6]. Anticoagulation with heparin and antiepileptic therapy are used to prevent recurrent seizures. It is applied in surgical treatment in necessary patients. With appropriate treatment, 1/3 of comatose CVT patients can fully recover [7].

In our case, she was diagnosed with postpartum headache, altered consciousness, and seizure history. She was initially followed up with a pre-diagnosis of encephalitis, and later on, he was diagnosed with CVT with advanced imaging, since no clinical response was obtained.

Encephalitis is inflammation in the brain parenchyma, and it can be caused by infectious, post-infectious and non-infectious causes [8]. The most common infectious cause of sporadic encephalitis is HSV encephalitis. Clinical

manifestations of HSV encephalitis are fever, altered consciousness, new seizures, and focal neurological deficits. Cerebrospinal fluid (CSF) pleocytosis (≥ 5 leukocytes/ml) and contrast-enhancing lesions on magnetic resonance imaging and abnormal findings on electroencephalography can be seen in the diagnosis [8].

In our case, she presented to the emergency department with complaints of newly developed headache and altered consciousness. There was no fever at the time of admission, and in the CSF examination of the patient who had a seizure in the emergency room, 10 leukocytes/ml were detected. There was no growth in CSF culture and HSV DNA PCR was negative.

Similarly, there are postpartum case reports mixed with various diagnoses in the literature. It was reported a case of postpartum CVT in a 20-year-old female patient who was mistakenly diagnosed with post-dural puncture headache [9]. It was reported a patient with postpartum headache who was diagnosed with CVT by imaging upon exacerbation of headache, which was considered as headache after epidural analgesia [10].

CONCLUSION

Although our case was postpartum CVT, it is interesting because it was diagnosed as CVT after being followed up for two weeks with the pre-diagnosis of encephalitis due to the similarity of symptoms and clinical findings. CVT is a rare condition with a wide spectrum of clinical presentation, affecting especially young and middle-aged women more frequently, making it difficult to diagnose. It should be kept in mind that the delay in diagnosis and treatment may adversely affect the prognosis and should be kept in mind in the differential diagnosis, especially in postpartum women presenting with encephalitis clinic due to clinical similarity.

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