

CASE REPORT

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A rare cause of late postpartum convulsion: Cerebral venous sinus thrombosis **Pinar Ergenoglu***Baskent University School of Medicine, Department of Anesthesiology and Reanimation, Adana, Turkey*

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**Abstract**

Cerebral venous sinus thrombosis (CVST) is a severe and rare pregnancy complication. The most common symptom is a headache. However, it is less common for headaches to be accompanied by seizures. Postpartum eclampsia (PPE) traditionally refers to convulsions within seven days, but convulsions can occur up to 4 weeks after birth. In this case report, we present our patient who developed cerebral venous sinus thrombosis, which is a very rare complication of the postpartum period and can be confused with late postpartum eclampsia.

Keywords: Cerebral venous sinus thrombosis, postpartum eclampsia, convulsion**Introduction**

Cerebral venous sinus thrombosis (CVST) is a severe complication of pregnancy. The postpartum period, especially the first six weeks after birth, is considered an independent risk factor for CVST [1]. Gestational hypertension, preeclampsia, and eclampsia are included under the term hypertensive disorders of pregnancy [2]. Postpartum eclampsia (PPE) traditionally refers to convulsions within seven days, but convulsions can occur up to 4 weeks after birth. After 48 hours, it is considered a late PPE [3].

In this case, our intensive care management is presented in a patient who developed sagittal venous sinus thrombus after cesarean section with epidural anesthesia.

Case Report

A 25-year-old female patient was admitted to our hospital by our obstetrics and intensive care clinics with a history of convulsion on the fifth postoperative day after cesarean section with epidural anesthesia in an external center and a diagnosis of postpartum eclampsia. It was learned that the patient did not have any systemic disease before pregnancy, was followed up for preeclampsia

during pregnancy, and arterial blood pressure was regulated with methyldopa. It was learned that the cesarean section and anesthesia were performed without complications, he was discharged on the second postoperative day, and he had no other complaints other than pain at the operation site. On the patient's first admission to the intensive care unit, his general condition was moderate, and his consciousness was confused in the physical examination. Glyceryl trinitrate and magnesium sulfate infusion were started for the hypertensive patient for blood pressure regulation. It was observed that hemiplegia developed in the patient's right upper and lower extremities, who had relapsed at the 6th hour of the intensive care follow-up. Cerebral computed tomography (CT) was taken under emergency conditions after consultation with the neurology clinic. In cerebral CT, it was observed that the ventricular system was in the midline and of standard width, and cortical veins were prominent at the vertex level. Cerebral magnetic resonance imaging (MRI) and venography were performed to exclude venous thrombus. Cerebral MRI and venography showed thrombus in the cortical veins and the superior anterior part of the sinus sagittal, small venous infarct in the left frontal at the vertex level, diffuse thickening, and contrast enhancement in the dura. The patient was consulted to the neurology clinic due to the diagnosis of sagittal sinus thrombosis. Heparin infusion and acetylsalicylic acid were started for anticoagulant treatment, and mannitol, dexamethasone, and phenytoin sodium were started for antiedema and anticonvulsant treatment. The patient was transferred to the neurology service with full neurological recovery on the fourth day of intensive care treatment.

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Discussion

The term hypertensive disorders of pregnancy include gestational hypertension, preeclampsia, and eclampsia [2]. Postpartum eclampsia (PPE) traditionally refers to convulsions within seven days (usually within 24 or 48 hours after delivery of the baby and placenta), but convulsions can occur up to 4 weeks after birth. Developing 48 hours after birth is considered late PPE [3]. Late PPE is a rare clinical entity [4]. In the differential diagnosis of PPE, cerebrovascular events such as hemorrhage and venous thrombosis, posterior leukoencephalopathy, and endocrine and electrolyte disorders should be considered [5].

Cerebral venous sinus thrombosis (CVST) is a severe complication of pregnancy. In a series of 67 cases published by Cantu and Barinagarreenteria, it was reported that 65% of cerebral vein thrombosis cases were diagnosed during pregnancy or the postpartum period [6]. There are two potential mechanisms that predispose women to cerebral vein thrombosis in the postpartum period. The first is damage to the venous sinuses during labor due to fluctuations in intracranial pressure. The second mechanism is pregnancy-associated hypercoagulation [7]. The postpartum period, especially the first six weeks after birth, is considered an independent risk factor for CVST, and this risk is 3.5 times higher than in non-pregnant women. Anemia, preeclampsia, perforation of the dura mater, cesarean delivery, and postpartum bleeding are among the obstetric causes of CVST [1]. CVST is a rare disease with an estimated annual incidence of 5 per million and accounts for 0.5-1.0% of all strokes. It has been reported that 74% of headaches, 50% of seizures, and 38% of motor weakness are seen in these patients, and these patients are empirically treated with magnesium sulfate for eclampsia, and MRI is applied only after treatment failure [8]. The most common symptom is a headache. However, it is less common for headaches to be accompanied by seizures. In the acute phase, all CVST patients should be anticoagulated with either unfractionated intravenous heparin or subcutaneous low molecular weight heparin [9]. In our patient, the initial symptom was not the headache, and the first symptom was convulsion, which complicated the diagnosis process. This different clinical flow caused the patient to be followed and treated for PPE in the first stage. However, with careful follow-up and a good neurological evaluation, a diagnosis of CVST was made, and

complete neurological recovery was achieved with anticoagulant therapy.

Conclusion

In this case report, we presented our patient who developed CVST accompanied by neurological findings in the postpartum period. As seen in our patient, it is possible for CVST, which is a rare clinical entity, to progress with accompanying neurological findings rarely. Therefore, we think that it should be considered in the differential diagnosis of the etiology of convulsions in the late postpartum period.

Conflict of interests

The authors declare that there is no conflict of interest in the study.

Financial Disclosure

The authors declare that they have received no financial support for the study.

Ethical approval

Ethical approval was not received because it is a case report.

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