Seizure After Cesarean Section with Epidural Anesthesia: Case Report

Epidural Anestezi ile Sezaryen Sonrası Nöbet

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ABSTRACT We presented the case of a patient who experienced cerebral venous thrombosis on the fifth postpartum day of cesarean section. Neurologic complication related to pregnancy is infrequent during postpartum period. But, it can be serious and potentially life-threatening. Cerebral venous thrombosis (CVT) occurs frequently in association with pregnancy and but is more common during postpartum period than pregnancy. The most common symptom of CVT is headache. Headache is encountered frequently in the first postpartum week. It is usually treated with analgesics and patients can be discharged under analgesic therapy. Although headache after regional anesthesia for cesarean section is often treated as a postural puncture headache, the reason of headache after cesarean section under regional anesthesia can be of various origins, such as cerebral venous thrombosis.

Key Words: Anesthesia, epidural; epilepsy; cesarean section; intracranial thrombosis

ÖZET Bu yazıda, sezaryen sonrası beşinci günde serebral venöz tromboz gelişen bir olguyu sunduk. Postpartum dönemde gebelik ile ilişkili nörolojik komplikasyonlar sık değildir. Fakat ciddi ve yaşamı tehdit edici olabilir. Serebral venöz tromboz sıklıkla gebelikle ilişkilidir, fakat postpartum dönemde gebelik döneminden daha sık görülür. Serebral venöz trombozun en sık görülen semptomu baş ağrısıdır. Postpartum dönem ilk haftada baş ağrısı ile sık karşılaşılır. Bu hastalar genellikle analjezik ile tedavi edilir ve analjezik tedavisi altında taburcu edilebilir. Sezaryen için rejyonal anestezi uygulanmış bir gebede baş ağrısı şikayeti sıklıkla postural ponksiyon baş ağrısı olarak tedavi edilmesine rağmen baş ağrısının serebral venöz tromboz gibi farklı nedenleri de olabilir.

Anahtar Kelimeler: Anestezi, epidural; epilepsi; sezaryen; intrakraniyal tromboz

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Cerebral venous thrombosis (CVT) is a rare complication during pregnancy and postpartum period, but it can be serious and potentially life-threatening. Early diagnosis and treatment is important for good prognosis.

CASE REPORT

A previously healthy 35-years old nullipar patient, American Society of Anesthesiologists (ASA) physical status classification I, was admitted to the University Hospital in the 37 week of pregnancy. The patient was scheduled for elective Cesarean section. She had no history of neurologic or

hematologic disorders, medication or alcohol use, but was a smoker (4 cigarettes in a day, for 8 years). Laboratory values were normal. Using the loss of resistance to saline technique, an epidural catheter was introduced into the lumbar epidural space at the L3-4 interspace using an 18 G Touhy needle at the first attempt. Three mL of lidocaine (1%, 3 mL) with epinephrine (1/200 000) was given as a test dose and there was no sign of intrathecal or intravascular placement. Epidural anesthesia was continued incrementally with 5 mL boluses of 0.5% bupivacaine and 50 mcg/mL of fentanyl. Adequate level of anesthesia was achieved with total of 15 mL bupivacaine and 50 mcg/mL of fentanyl. The catheter was removed 24 hours after cesarean section by an anesthesiologist and analgesia was continued with paracetamol. The patient complained of moderate occipital headache, nausea, and vomiting for once on the second day after the cesarean section. On the second day her vital signs were normal and did not have any neurologic symptoms. There were no signs of infection at the site of epidural puncture. An intravenous infusion of 0.9% NaCl solution of 1000 mL within the first 3 hours and intramuscular diclofenac sodium was administered. The patient was discharged two days after the surgery.

Five days after the surgery, the patient was admitted to our hospital after experiencing a generalized tonic-clonic seizure at home. On admission, her vital signs and neurologic examination were normal. She was normotensive and had no neurologic deficits. Laboratory tests, EEG and a magnetic resonance imaging (MRI) was planned, but the patient had one more tonic-clonic seizure at the same day. The patient was transferred to the intensive care unit. MRI of the brain revealed CVT with an accompanying infarction (Figures 1-3). Anticoagulation with enoxaparine and warfarine, and anticonvulsant therapy with levetiracetam were immediately initiated.

Normal values were obtained for the following laboratory data; complete blood count, coagulation screen, serum electrolytes, glucose, SGOT, SGPT, GGT, vitamin B12, folic acid, free T3, free T4, TSH and triglyceride. Cholesterol was 260 mg/dL (normal value: <200 mg/dL). Lupus anticoagulant was positive. Activity of Protein S and Protein C was within normal limits. Antinuclear antibody was positive, lupus erythematosus cell was

FIGURE 1: Filling defect in the mid portion of superior sagittal sinus and sinus rectus.

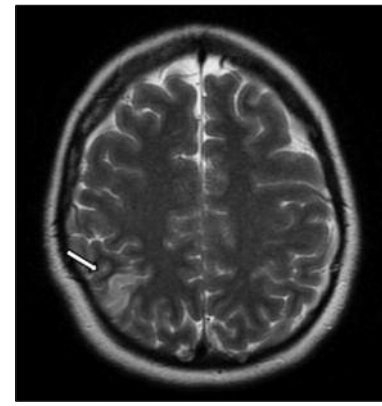

FIGURE 2: Pathological hyperintensity in the right parietal cortical, subcortical region related to acute and subacute infarction.

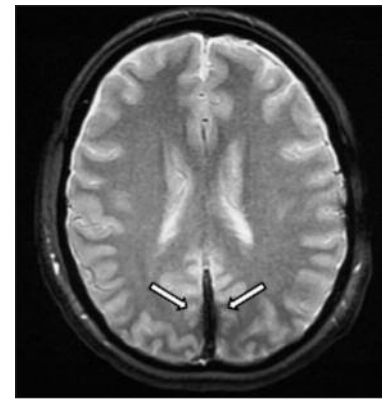

FIGURE 3: Blooming sign in the sinus rectus location related to thrombosis.

negative. There was structural abnormality on right temporo-parietal area but was not any epileptic activity in EEG.

The patient's condition improved clearly and after 3 days in the hospital, the patient was discharged from the hospital. Therapeutic oral anticoagulation and anticonvulsive therapy was continued. Warfarine dose was adjusted according to the value of International Normalized Ratio (INR). INR value was kept between 2-2,5. At the 3 months follow up, no headache or neurologic sequel were seen.

DISCUSSION

Postpartum period is a high -risk status for various complications because of maternal physiological changes.[1] Neurologic complication related to pregnancy is infrequent.[2] CVT is an uncommon complication during pregnancy and postpartum period with an incidence from 1:10 000 to 1:25 000.[3] It can be serious and potentially life-threatening, may lead to sequel or even death if not recognized and treated early. CVT occurs frequently in association with pregnancy and puerperium (17% of CVT), but is more common during postpartum period than pregnancy.[4,5] Causes include hematologic disorders, hypercoagulable states, pregnancy, puerperium and oral contraceptives.[6,7] Acute blood loss during delivery, dehydration, postpartum infection, previously cerebrovascular disorders and prolonged bed rest are predisposing factors for CVT.[5]

Symptoms of CVT usually occurs during the first 7 days of postpartum period.[8] Symptoms are headache, nausea, vomiting, epileptic seizures, focal neurologic deficits, and even coma.[6,9] Cerebral symptoms are related to the obstruction of cerebral venous sinuses.[6] Headache is the most common symptom of CVT (70-88%).[1] Headache is encountered frequently with an incidence of 39% in the first postpartum week.[10] It is treated with analgesics and when symptoms die down patients can be discharged under analgesic therapy.[1] Since headache after cesarean section can be related to various factors, the underlying pathology may be unnoticed, or misdiagnosed. Therefore, intracranial pathology can be overlooked and the treatment be delayed.[11] Early diagnosis and immediate treatment is associated with good prognosis in patients with pregnancy associated CVT.[5,9]

Patients with CVT may have higher serum triglyceride, phospholipid, free fatty acid, blood platelet count and platelet adhesive index, and lower fibrinolytic activity compared to healthy people.[8]

CVT is essentially associated with hypercoagulation which leads to venous infarcts and brain hemorrhage.[12] Magnetic resonance imaging is able to detect of early cerebral venous infarction with a high degree of sensitivity.[2,13] Therefore, if clinical assessment is insufficient, MRI should be used for diagnosis. We used cranial MRI to confirm the diagnosis of CVT in our patient.

The treatment of venous thrombosis is primarily medical,[14] and includes rest, hydration, control of actual or potential seizure activity with anticonvulsant and anticoagulation therapy.[9,12,14] During pregnancy the preferred agents are heparin compounds for anticoagulation.[15] Warfarin is relatively contraindicated during pregnancy, but can be used safely in the postpartum period and is safe for breastfeeding.[16] Our patient was treated successfully with anticonvulsant and anticoagulant therapy with warfarine.

In conclusion, CVT is a rare but a very serious disease during pregnancy and postpartum period. The symptoms of the CVT can be various, but the most common symptom is headache. The symptoms can be overlooked with different reasons such as postdural puncture headache after regional anesthesia for cesarean section. Physicians should be aware about the CVT when a parturient has headache during postpartum period.

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