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CEREBRAL VENOUS THROMBOSIS IN PREGNANCY : A CASE REPORT

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Abstract

Cerebral venous thrombosis (CVT) is a rare complication encountered in pregnancy. Symptoms of CVT include headache, limb paresis, seizures, disturbed consciousness, visual disturbances. We present our 25 years old pregnant patient who presented with unsteadiness of gait, weakness and numbness of all four limbs, vomiting headache, giddiness due to which it was difficult for her to perform her daily activities. After the differential diagnostic examinations, we recognised cerebral venous thrombosis. After anti-coagulant treatment, the symptoms resolved. We would like to convey that such symptoms in pregnant women we should always think of CVT.

Keywords

Cerebral venous thrombosis, Pregnancy, weakness, anticoagulant treatment.

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CEREBRAL VENOUS THROMBOSIS IN PREGNANCY : A CASE REPORT

Introduction

Cerebral venous thrombosis (CVT) is a rare, multi-symptomatic, and serious complication encountered in pregnancy. Pregnancy is recognized as an important risk factor for cerebral venous thrombosis(1). Thromboembolic events in pregnant women are 5.5-6 times more frequent than in the general female population, and approximately 0.004% -0.01% of pregnancies are complicated by venous thrombosis.(1,2).

During pregnancy, the woman's body undergoes pathophysiological changes that promote increased blood clotting: an increase in the level of coagulation factors (factor VIII and fibrinogen), decrease in the level of S protein, decrease in the intensity of fibrinolysis processes, blood stagnation in the venous bed, especially in the lower extremities.(1,2) The most significant risk of cerebral venous thrombosis is found in the third trimester and the puerperium period(3,4). The most common symptoms of cerebral venous thrombosis are headaches (74%), seizures (50%), limb paresis (38%), disturbed consciousness (45%), visual disturbances (24%)(2).

Case report

A 25-year primigravida with 16 weeks of gestation was admitted to Neurological Ward with complaints of unsteadiness of gait, weakness, numbness of all four limbs, vomiting, headache and giddiness, since two days due to which it was difficult for her to perform her daily activities. No significant past medical or surgical or family history. She did not take any medications permanently.

Neurological examination showed power of 4/5 with areflexia of bilateral lower limbs. LP CSF analysis was normal. The patient had persistence of vomiting, headache and giddiness. During the stay at the ward, extensive diagnostics were performed. MR venogram showed absent flow-related signal intensity with loss of flow void in T2 and corresponding T1 hyperintensity in right IJV, suggested cerebral vein thrombosis. Anticoagulant therapy - LMWX 40 MG S/C BD and methylcobalamine supplements were started. No clotting disorders were found. The patient improved symptomatically and was discharged. She continued taking LMWX throughout pregnancy and at 38 weeks 1 day of gestation came with complaints of pain abdomen. LMWX was withheld and she was induced with tab misoprostol 50 micrograms. She delivered a single live term female baby on 1/1/2023 by full term normal vaginal delivery. After 12 hours of delivery, anticoagulant therapy - Tab Acitrom 2 mg OD was continued. Postpartum period was uneventful. Repeat Hb on postnatal day 2 was 11.9 gm/dl. Patient was discharged on postnatal day 3. One month after delivery, the patient was in good condition without any complaints and any neurological symptoms. She is under constant neurological supervision.

Discussion

Cerebral venous thrombosis is most often manifested by headaches (97%), epileptic seizures (47%), and paresis (43%).(5) It can also cause symptoms such as dizziness, nausea, vomiting, blurred vision, oedema of the optic nerve disc, diplopia, somnolence, coma (6). Usually, symptoms build up over a few days, but the disease can also start very rapidly. The symptoms depend mainly on the location of the thrombosis, the presence of collateral circulation, and the cortical areas involved. Symptoms may be fluctuating as a result of simultaneous thrombotic and fibrinolytic processes (6). The differential diagnosis includes

diseases such as ischemic stroke, eclampsia, preeclampsia, encephalitis, trauma, brain tumors, subarachnoid hemorrhage, metabolic disorders (hypoglycemia, hyponatremia, hypokalemia, plasma hypoosmolality), drug overdose, antiphospholipid syndrome or other thrombophilia, autoimmune diseases (systemic lupus erythematosus, essential thrombocytopenia)(7). The test for the diagnosis of venous thrombosis in pregnant women is magnetic resonance venography, the so-called TOF MRV (Time-of-flight magnetic resonance venography). Venous thrombosis is often located within the transverse sinus, superior sagittal sinus, and straight sinus. Less often, it includes cortical veins, jugular vein and Galen's vein. Often, thrombosis develops in several venous vessels/sinuses (8). Low molecular weight heparin is the treatment of choice for cerebral venous thrombosis during pregnancy. Unfractionated heparin is an alternative treatment when LMWH is unavailable or contraindicated. None of the above heparins cross the placenta.

Vitamin K antagonists, e.g., warfarin, cross the placenta and are therefore contraindicated during pregnancy. The dose of low molecular weight heparins depends on the body weight. Anticoagulation treatment may be stopped at delivery or, if delivery is planned, the last dose should be given the day before the scheduled delivery date. Low molecular weight heparin can be started again 4-6 hours after normal delivery or 6-12 hours after cesarean delivery. Anticoagulant treatment of cerebrovascular thrombosis during pregnancy should be carried out throughout pregnancy (from diagnosis) and at least six weeks after delivery. After delivery, both low molecular weight heparins and vitamin K antagonists (Warfarin) can be used because the medications mentioned above are safe in nursing women. The prognosis of cerebral venous thrombosis in pregnant women is quite good. In the course of 20 years, Martinelli et al. examined 283 patients with the first episode of thrombosis of the cerebral veins during pregnancy, who were treated with low-molecular-weight heparin in a

prophylactic dose in subsequent pregnancies. None of the women in subsequent pregnancies experienced a recurrence of thrombosis or bleeding during pregnancy. The risk of late obstetric complications in subsequent pregnancies after the first CVT episode was 24% and was associated with the diagnosed thrombophilia or coexisting diseases.(9) Also, Poli et al. confirm a good prognosis in 99 women with cerebral venous thrombosis during pregnancy and the absence of thrombosis in the subsequent pregnancy using low-molecular-weight heparin prophylaxis from the beginning of pregnancy(10). These studies have shown that a history of cerebral venous thrombosis is not a contraindication to further pregnancies, provided that low-molecular-weight heparin anticoagulant prophylaxis is implemented from the beginning of pregnancy and used up to 6-8 weeks after delivery.(10)

Summary

Symptoms of cerebral venous thrombosis vary widely in pregnant women. In pregnant women with headaches, seizures, or other non-specific neurological symptoms, the possibility of cerebral venous thrombosis should always be considered as a cause of the symptoms. The imaging test of choice is venographic MRI. The treatment of choice is the use of low molecular weight heparins. The prognosis is good. In all cases, tests for thrombophilia should be performed. A history of cerebral venous thrombosis is not a contraindication to subsequent pregnancies, but anticoagulant prophylaxis is recommended during pregnancy. The patient should remain under gynaecological care and neurological control.

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Conflicts of interest

The authors did not report any potential conflicts of interest.

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