CASE REPORT

Simultaneous Caesarian Section with Cerebral Haematoma Decompression

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Abstract

This is a case of spontaneous intracerebral hemorrhage of unknown etiology presenting in the third trimester for which lifesaving intracranial surgery was undertaken along with simultaneous caesarian section to avoid risk of deep anesthesia and fetal morbidity.

Key Words

Stroke, Caeserian Section.

Introduction

The incidence of stroke is about 1 in 600 pregnancies (1). Of these, the incidence of hemorrhagic strokes is 1 in 15,000 pregnancies. The rarer intraparenchymal hemorrhage variety of haemorrhagic stroke is noted in 4.6/1,00,000 deliveries to 8/100,000 (2, 3).

Increased risk of intracerebral hemorrhage is observed peripartum and 6 weeks after delivery (RR- 28.3 95%, CI 13.0-61.4) but not during pregnancy (RR - 2.5 95%, CI 1.0-6.4) (4, 5). Most common causes of intracerebral hemorrhage are eclampsia (44%) followed by ruptured vascular malformation (37%) and rarely metastatic choriocarcinoma or disseminated intravascular coagulation. The cause remains undermined in 20% of cases (2,6,7). Of vascular malformations, 77% are secondary to aneurysm and 23% due to arteriovenous malformation (AVM) (8).

Usual age of cases with intraparenchymal hemorrhage lies between 23-50 years (2). Various risk factors include multiparity (greater than 6 pregnancies), tobacco use, hypertension, alcohol, preeclampsia and smoking (2,3,9).

Case Report

A 23-year-old gravida 3 with one living issue and one abortion with normal antenatal course, presented at 38 weeks period of gestation with complaints of left sided hemiparesis. She was a normotensive patient with a history of seizure disorder for past 15 years well controlled on daily 300 mg oral phenytoin medication. She developed progressive neurological deficit in the form of left lower limb paresis followed by upper limb and facial weakness of the same side over a period of 24 hours. She also had associated headache and vomiting. No history of photophobia, recent seizure coagulopathy or drug abuse was present. On neurological examination, fundus showed a non-reacting dilated right pupil. She had seventh upper motor neuron paresis and left sided hemiparesis with proximal upper and lower limb power of 0-1/5 and distal muscle power of 2-3/5.

Fig. 1 A large right parieto-frontal bleed with mild midline shift and peripheral edema.

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On obstetric examination, uterus was term size with a normal tone and a regular fetal heart rate of 148 beats per minute. Initially, vitals were stable with no pallor, icterus or pedal edema. No skin rash or petechiae were present. Her blood investigations and coagulation profile was normal. However, within few hours of observation, she deteriorated neurologically and developed altered sensorium. An urgent computerized tomography of head revealed a large right parieto-frontal bleed with mild midline shift and peripheral edema. After initial resuscitative measures, patient was shifted to operation theatre in neurosurgical consultation for urgent decompression of the hematoma and a concomitant caesarian section. She delivered a male 2.76 kg baby with first and five minute Apgar score of 6/10 and 9/10 respectively. Simultaneously, a right parietal trephine craniotomy followed by evacuation of right posterior fronto-parietal hematoma was done. She started recovering neurologically post surgery and was discharged on 10th postoperative day with a healthy baby. She was advised a regular follow- up and physiotherapy.

Discussion

The presentation and clinical features of stroke in pregnancy can be confusing (6). Mean gestational age at the time of stroke observed is 32 weeks (22-32 weeks) and 6 weeks postpartum (2). This increased risk of intracereberal hemorrhage appears to correlate with augmented cardiac output of pregnancy as well as other coagulopathy, hemodynamic and endocrinological changes at this time (10). Suspicious neurological signs and symptoms in a gravid patient should be thoroughly evaluated. Classical clinical presentation of all intracranial hemorrhages includes different forms of headache, photophobia, convulsions, temporary unconsciousness as well as neck stiffness. Majority of affected patients arrive comatose due to small premature bleeds (so called “warning leaks”) (11). However, if warning signs (temporary headache, dizziness, orbital pain, diplopia, seizures, loss of vision, sensory and motor disturbances) due to small premature bleeds are recognized, appropriate diagnostic study and treatment with favorable prognosis can be offered to the patient (12). Computerized tomography is the diagnostic tool of choice. Cerebral angiography does not lead to increase in maternal / fetal complications, provided mother is stable, thus can be done to further determine the etiology (13).

Intracranial hemorrhages due to AVM or aneurysm carries a high maternal and fetal mortality rate of 20% and 33% respectively (14). Death is due to herniation and cardiac arrest (2). Even in survivors, 40% have residual neurological deficit. The clinical status of patient at the time of presentation is primarily considered to influence the future outcome. Prompt neurosurgical intervention helps to lower maternal mortality significantly (11). Neurosurgical procedures utilized in the treatment of hemorrhage may induce anoxia in fetus. In most severe cases, the obstetric staff may have to perform agonal caesarian section for fetal preservation. This case report illustrates one such procedure with good maternal and fetal outcome.

To summarize, in cases of term/viable pregnancy, with acute intracranial hemorrhage emergency, neurosurgical intervention is required along with termination of pregnancy by cesarean section. With this aggressive work-up and cause specific management both maternal and fetal morbidity and mortality can be reduced.

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