Letter to Editor

POSTPARTUM CEREBRAL ANGIOPATHY WITH SUBARACHNOID BLEED – A DIAGNOSTIC DILEMMA?

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Sir,

A 40 years female of second gravidawas admitted in our hospital for elective cesarean section. Her first pregnancy ended in full term, underwent emergency cesarean section under general anesthesia, for fetal distress. Both baby and mother had an uneventful recovery. Current pregnancy was uneventful with regular antenatal checkups .She got admitted one day prior for elective cesarean section with indication being previous cesarean section.preanesthesia checkup was done and patient was assigned ASA grade 1 case.

On the day of surgery,patinet was given spinal anesthesia under all aseptic precautions and all standard precautions for spinal anesthesia were followed. There was no surgical complication. The procedure was completed within 50 minutes and the patientwas shifted to surgical high dependency unit.

Postoperative period was uneventful with recovery of motor power taking place within 3 hours. Her vitals were stable with blood pressure being 120/ 80 mm Hg throughout first 48 hours after surgery. In the 12 hours after surgery patient started taking oral feeds and IV fluids were discontinued.

48 hours after surgery, the patient complained of headache, which was frontal in nature not associated with nausea or vomiting, blurring of vision or photophobia. Headache was relieved in lying down position while it was more in sitting or standing position. There were no other neurological findings. A diagnosis of postdural puncture headhache was done. Patient was asked to lie down, take more liquids and tablet paracetamol 500 Mg three times a day was prescribed. Patient's headache was relieved.

Patient was discharged on 5th postoperative day.

On the 7th postoperative day of surgery, patient was readmitted in the hospital with sudden severe headache. The headache was frontal, not associated with nausea and vomiting or photophobia or blurring of vision. There was no neurological finding (GCS-15).headache was less severe in head low position. IV fluids were started and tablet paracetamol 500mg was given. Patient was kept under observation. After 3 hours patient looked drowsy, though obeying commands on instruction (GCS-14). Immediate neurophysician and neurosurgical consultation was taken and CT scan was taken. CT showed subarachnoid hemorrhage extending to ventricles. Patient was shifted to neurosurgicalcentre, where digital substraction angiography was done. It was negative for intracranial aneurysm. Patient was put on ICP lowering agents including steroids and mannitol.

On the second day it was decided to put external ventricular drain(EVD) for decompression. Under local anesthesia EVD was put, CSF was bloody. Patient was fully conscious on the same day (GCS-15). EVD was put for 5 days. Digital substraction angiography was repeated on 6th day but it was negative for intracranial aneurysm.Patient was discharged from the neurosurgicalcentre on 7th day without any neurological deficit. If patient would not have been diagnosed timely,mortality and morbidity is very high in such cases,which includes stroke and permanent neurological sequele.

Subarahnoid hemorrhage in pregnant patient is rare, but important cause of morbidity and mortality .most cases isanurysmal bleed or AV malformation but many times no apperent vessel pathology is identified. Incidence of postpartum subarachnoid haemorrage is 5.8 per 100000 deliveries[1] .Risk factors are older age,

African American or Hispanic heritage, and sickle cell disease, hypertensive disease of pregnancy, smoking and coagulopathy.

Postpartum cerebral angiopathy is diagnosis of exclusion where intracranial bleed has been found but there is no other cause of bleed (aneurysm, AV malformation or genetic diseases) in a post partum patient[2]. Cerebral angiography depicts cerebral vasospasm. PPCA can occur after normal vaginal delivey, cesarean section by general anesthesia or cesarean section by regional anesthesia (spinal or epidural).

Anesthesiologist is involved in the diagnosis where anesthetic has been administered as with the present case. The presentation of PPCA is with headache [1] the differential diagnosis being postdural puncture headache, which is commonest cause of headache after spinal anesthetic (incidence 30 %).if neurologic signs are absent, it is very difficult to distinguish the headache because of intracranial bleed and postdural puncture headache as seen in the our case. The signs like nausea, vomiting, photophobia also cannot be relied upon because they also occur in postdural puncture headache[3]. Again history of pregnancy induced hypertension is not always associated with non anurysmal bleed as in our case. Headache can be mild and not thunderclap if the bleed is small and progress to thunderclap once the bleed increases in size. Again postural variation cannot be considered to be definitively diagnostic of post dural puncture headache and can be associated with headache because of intracranial bleed [4]. The diagnosis is easier if general anesthesia has been administered or normal vaginal deliveries as postdural puncture headache is not associated with these entities.

If headache is not being relieved with simple analgesics like NSAIDs, we suggest urgent neurological consultation to assess possibility of intracranial bleed rather than going to treatment modalities like sumatriptan, caffeine or epidural blood patch because of dangerous nature of intracranial bleed compared to good prognosis of PDPH. Again sumatriptan, caffianearecereberalvasoconstrictor agents which increases risk of intracranial bleed.

In conclusion, we have to keep in mind diagnosis of postpartum cerebral angiopathy in a differential diagnosis of postdural puncture headache; we may not get history of typical thunderclap headache in early small bleeds, where prompt treatment can save the life of patient. If headache is not getting relieved with simple analgesics in postpartum period, urgent neurological consultation should be taken before instituting treatment modalities like caffeine , sumatriptan or epidural blood patch.

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