



Anesthesia management of a parturient with severe pre eclampsia & history of cerebral venous thrombosis

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Abstract

Cerebral Venous thrombosis (CVT) is a common neurological complication seen in post-partum period. When such a patient presents for subsequent pregnancies the management can be quite challenging as they are on anticoagulants. Pregnancy being a hypercoagulable state can complicate the treatment. We present the management of a parturient who was a diagnosed case of CVT posted for elective caesarean section managed with subarachnoid block with no neurological complications in postoperative period.

Keywords: cerebral venous thrombosis, anticoagulation, subarachnoid block

1. Introduction

Pregnancy is a compensated hypercoagulable state [1], due to physiological changes occurring during pregnancy. This changes occur to limit blood loss during parturition but in some cases the balance may be altered much in favour of thrombosis and thrombotic diseases may occur. Cerebral venous thrombosis is such a complication and can cause stroke during and following pregnancy. It can present with a wide variety of symptoms i.e. isolated cortical vein thrombosis causing focal sensory or motor deficit where as large sinus can present with intracranial hypertension.

Case Report

We present a case of 22 years old female with severe pre eclampsia posted for elective lower segment caesarean section (LSCS). She had h/o eclampsia and cortical venous thrombosis in previous gestation. She had developed headache, convulsions, left gaze and deviation of angle of mouth to right side after fifteen days of delivery of fetus. MRI Venogram was suggestive of left sigmoid sinus and left internal jugular vein thrombosis. She was started on anticoagulants oral tablet (tab) Warfarin (dose modified as per INR values) and anticonvulsant tab Phenytoin 100 mg QID. Repeat MRI after nine months of treatment revealed complete resolution of thrombosis.

During present gestation, she was admitted at 29 weeks with accelerated hypertension, and was started on tab Labetol 200 mg

BD and tab Amlodipin 10 mg QID. Tab Warfarin and tab Phenytoin were stopped and she was started on Inj Enoxaparin 80 mg BD subcutaneous, tab Oxcarbazepine 300 mg BD in first trimester; and tab Aspirin 75 mg OD from second trimester. Due to severe pre eclampsia and intra uterine growth retardation (IUGR) with fetoplacental insufficiency and increased S/D ratio she was posted for elective lower segment caesarean section (LSCS) at 33 weeks. The laboratory parameters were within normal range except antinuclear antibodies which were strongly positive. The neurological examination and fundus examination were normal. Inj Enoxaparin was stopped 24 hours prior to surgery. She was started on Inj magnesium sulfate (MgSO₄). After confirmation of adequate starvation and informed consent, subarachnoid block using 26 G Quincke's needle with 10mg bupivacaine heavy was given. A preop spinal level of T6 was achieved. The surgical duration was 90 min. A healthy baby was delivered with Apgar Score of 9/10. Intra operative blood loss was 600-700 ml and placenta. The hemodynamics were within normal range throughout the surgery. One litre lactated ringers was given intra operatively and Inj oxytocin 20 IU was given after baby delivery. The patient was shifted to recovery room and then subsequently to high dependency unit for observation. After 24 hours when no neurological complications were documented she was shifted to wards. Inj Enoxaparin was restarted after 6 hours in consultation with the neurology team.

MRI BRAIN VENOGRAPHY-LEFT SIGMOID SINUS AND LEFT IJV THROMBOSIS.



REPEAT MRI BRAIN VENOGRAPHY-COMplete RECANALISATION OF LEFT SIGMOID SINUS AND LEFT IJV THROMBOSIS

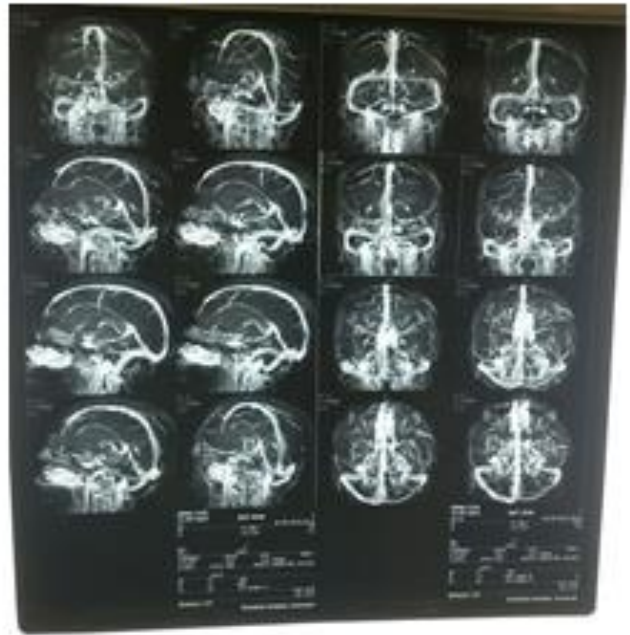


Fig 1

Discussion

The parturient under anticoagulation treatment can present for emergency operative procedures including delivery anytime during the gestational period. If the parturient comes for elective surgery, there is time for optimisation of the patient. If the patient needs emergency surgery, she may pose a challenge to both the surgeon and the anesthesiologist. Our patient was already a registered case and was on tab Warfarin for cerebral venous thrombosis. She was on bridging therapy with low molecular weight heparin which was stopped twenty four hours before her operative delivery. Pregnancy, dehydration, ANA (anti-nuclear antibodies), spinal anesthesia are some of the predisposing factors for CVT. As the patient was posted for elective LSCS, we had time to start prophylactic MgSO₄ and also to stop LMWH. Hence this patient safely received subarachnoid block without any complications in the post operative period. She was also able to experience the child birth. General anesthesia though considered safe for CVT has its concerns like increased risk of aspiration, increased intracranial pressure and alteration of seizure threshold during laryngoscopy etc. MgSO₄ can potentiate CNS depression and neuromuscular blocking drugs. All these were avoided in this patient with the use of subarachnoid block.

Rajat Gupta *et al* [3]. in 2015 used general anesthesia for CVT. Panaych *et al* [2]. in 2016, Richard Month *et al* [5]. in 2008, Holzman RS *et al* [6]. in 2006 have documented the use of regional anesthesia for parturient with CVT. Ellen Lockhart [4]. in 2007 mentioned that intracranial thrombosis can be easily misdiagnosed as post dural puncture headache (PDPH) in a patient who has received subarachnoid block.

Conclusion

The decision of regional or general anesthesia should be individualised based on risk and benefits ratio. Even though

general anesthesia appears safe in cerebral venous thrombosis on anticoagulants, subarachnoid block is a good alternative provided the coagulation parameters are within normal range. And along with intra operative monitoring, vigilant monitoring should continue in to the post operative period for signs of neurological complication to improve the outcome.

Conflict of interest

Nil

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