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Antiphospholipid antibody syndrome and Emergency Caesarian Section: Anesthetic Management

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Abstract: Anti-phospholipid antibody syndrome (APS) is an autoimmune thrombotic condition characterized by hypercoagulability, venous and/or arterial thromboembolism. During the reproductive years, it may present as recurrent abortions or infertility. Anesthetic management in a patient with APS may pose a challenge, especially during pregnancy and delivery. We hereby present a case of successful management of emergency caesarian delivery in a patient with APS, with no maternal or fetal complications.

Keywords: Antiphospholipid antibody syndrome; Obstetric anesthesia; Thromboembolism; Autoimmune; Emergency Caesarian section.

Introduction

Antibodies against negatively charged phospholipids cause recurrent pregnancy loss in anti-phospholipid antibody syndrome (APS), also known as Hugues' syndrome [1]. Since there is no permanent cure for this rare autoimmune disorder, the major aim is to prevent thrombo-embolic events by administering anticoagulants. Early diagnosis of APS can ensure that the pregnancy can be continued till term. Generally, elective caesarian section is planned after fetal maturity for ensuring a good maternal and fetal outcome [2]. We hereby present a case of APS for emergency LSCS (Lower Segment Caesarian Section), who had past history of recurrent abortions and intra-uterine fetal death (IUD).

Case Report

A 24 years old multigravida presented for emergency lower segment caesarian section (LSCS) at the beginning of 36 weeks of gestation for fetal distress. She was a known case of APS attending the antenatal clinic regularly. She had previous history of recurrent spontaneous abortions. Her previous pregnancy resulted in intra-uterine fetal death (IUD) at 32 weeks of gestation.

During previous pregnancy, she also had history of mild PIH (pregnancy-induced hypertension), which was controlled on diet control and methyl-Dopa (anti-hypertensive) therapy. There was no history of PIH in current pregnancy.

She was put on low molecular weight heparin (LMWH) prophylaxis [Enoxaparin 0.4 mg subcutaneous once a day] from the first trimester of her current pregnancy along with low dose oral aspirin therapy (75 mg once a day). She had no other co-morbidities. She was planned for elective LSCS after 36 weeks of gestation by the treating obstetrician. She had no other co-morbidities. She presented to the emergency labor room with sudden decrease in fetal movements and was shifted to the emergency operation theatre for emergency LSCS. All her routine investigations done in the recent past were within normal limits, including platelet count, BT/CT (bleeding and clotting time) and prothrombin time. The last dose of LMWH was taken 12 hours back and she had taken her daily dose of Aspirin. All her vital parameters were within normal limits.

Regional anesthesia in the form of single-shot sub-arachnoid block was planned after aspiration prophylaxis and fluid preloading. After applying all standard monitors and wedge to prevent aorto-caval compression, the patient was turned to the lateral position for administering the subarachnoid block. A total of 2ml of 0.5% heavy Bupivacaine was given atraumatically with a 27G spinal needle after confirming free flow of CSF (Cerebrospinal Fluid).

The operative delivery proceeded uneventfully and a live, healthy baby with good Apgar scores was delivered. Induction-delivery interval was 5 minutes. Both pre- and post-delivery vital parameters were within normal limits. Pain management was done with local anesthetic wound infiltration and intravenous paracetamol infusion.

The patient was closely watched for thrombo-embolic or bleeding complications in the perioperative period. She was shifted to the postoperative ICU (Intensive Care Unit) for monitoring and observation, where she maintained her vital parameters within normal limits. LMWH was restarted the next day and Aspirin was continued. She was later shifted to the ward and discharged home after 4 days in a stable condition.

Discussion

APS (Anti-phospholipid antibody syndrome) can be either primary or secondary [3], according to its association with other autoimmune disorders. Our patient had primary APS as there was no clinical or laboratory evidence of other autoimmune diseases. The anti-phospholipid autoantibodies bind to negatively charged phospholipids and predispose to clotting, by interfering with their anti-thrombotic role. Our patient had high titres of anticardiolipin (aCL) antibody [Ig G titres (G Phospholipids) 42.8] and anti-beta-2-gycoprotein1 antibody [circulating ABGPI titres > 1:100]. Lupus anticoagulant assay was also positive. All these are characteristic of APS.

The pregnancy complications [4] associated with APS include pre-eclampsia, fetal growth retardation, recurrent abortions or fetal loss, still-births, chorea gravidarum and thrombocytopenia. Our patient had previous history of recurrent abortions, fetal death and pre-eclampsia. There is a high chance of thrombotic events (24% risk) occurring during pregnancy or the post-partum period.

Women account for 80% of cases of APS, which is predominantly diagnosed in the reproductive years (15-55 years). The European Registry on Obstetric Antiphospholipid Syndrome (EUROAPS) [5] found in 2015 that the timely treatment of obstetric APS ensures a good maternal-fetal outcome.

Treatment includes LMWH (Low-Molecular Weight Heparin) and low-dose aspirin therapy, which were both given to our patient in the ante-natal period. The major risk with administering regional anesthesia in these patients is the possibility of neuraxial hematoma and neurological complications. Standard ASRA (American Society for Regional Anesthesia) guidelines [6] have to be followed for such patients on anticoagulants. There have been case reports to suggest the use of regional anesthesia in APS in the absence of coagulation abnormalities. Intra-operatively, care must be taken to avoid hypotension and dehydration, as it may decrease fetal blood flow as well as increase the maternal blood viscosity. Perioperative use of mechanical thromboprophylaxis (calf DVT- deep vein thrombosis prevention pump) [7] is recommended till the time the patient is ambulatory. Utmost care must be ensured in the postoperative period for early detection and management of thrombo-embolic events.

Monitoring of coagulation parameters is beneficial in deciding the line of management. In the event of a deranged coagulation profile, then regional anesthesia may not be a suitable option and general anesthesia (GA)

should be administered for the caesarian delivery. The risks of GA for operative delivery are much greater than regional anesthesia in a pregnant woman. Hence, the coagulation parameters in a patient with APS determine the anesthetic management and the perioperative course.

Conclusions

Anti-phospholipid antibody syndrome is a serious multi-systemic autoimmune disorder requiring multi-disciplinary approach to manage the peri-natal period and prevent the occurrence of complications. Choosing of the type of anesthesia requires proper weighing of the risk-benefit ratio, monitoring the coagulation profile and keeping blood and blood products readily available. Close monitoring for the occurrence of thrombo-embolic events is mandatory in the perioperative period.

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