Antiphospholipid Antibody Syndrome Complicating Pregnancy: Anaesthetic Management for Caesarean Delivery.

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ABSTRACT

Antiphospholipid antibody (APLA) syndrome is an acquired autoimmune disorder characterized by venous or arterial thrombosis. It causes recurrent fetal losses in females of reproductive age group. However, with appropriate anticoagulant therapy in antepartum and the postpartum period, favourable pregnancy outcomes are possible. Elective caesarean sections are quite common in view of bad obstetric history. Here we discuss the anaesthetic management of a 25 year old female patient with APLA syndrome scheduled for elective caesarean section.

Keywords: Antiphospholipid antibody syndrome, caesarean section, spinal anaesthesia.

INTRODUCTION

Antiphospholipid antibody (APLA) syndrome is an acquired autoimmune disorder characterized by recurrent medium to large vessel thrombosis. Antiphospholipid antibodies are normally present in approximately 5% of the general obstetric population.[1] These antibodies may include lupus anticoagulant and anticardiolipin antibodies. The syndrome presents with recurrent thrombotic events and recurrent fetal loss in a female of reproductive age group.[2,3] Low dose aspirin either alone or combined with heparin (unfractionated or low molecular weight) is the main line of the pharmacological management.[4]

Here we discuss anaesthetic implications of APLA syndrome in a parturient scheduled for an elective caesarean section.

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CASE REPORT

A 25 year- old multigravida ($G_6P_1A_4$) with 37weeks of gestation presented for elective caesarean section in view of precious pregnancy and APLA syndrome. The patient had presented in our hospital a year back with complaint of spontaneous abortion at 20 weeks of gestation. Her first baby was SGA (short for gestation age) and had died at 2 months of life. This was followed by three consecutive abortions at 9 weeks, 12 weeks and 10 weeks respectively. The patient was thus investigated for the bad obstetric history. Immunological tests were also done and anti-cardiolipin antibodies were found to be elevated. A diagnosis of APLA syndrome was made, but the patient was lost to follow-up.

However, the patient presented again with 13 weeks of amenorrhea. She complained of bleeding gums and petechial spots all over the body. Her haemoglobin was 6g/dl, total leucocyte count 12000 and platelet count was 40,000. Renal function tests, liver function tests and coagulation profile were within normal limits. Anti-cardiolipin antibody IgM was positive. A diagnosis of anaemia with immune thrombocytopenic purpura (ITP) with APLA was made by physician and treatment was started for the same. Repeat anti-cardiolipin antibody was positive after 12 weeks. She was put on subcutaneous heparin 5000U twice daily and aspirin 75mg daily to prevent pregnancy loss and complications. She was planned for elective caesarean section delivery in view of precious pregnancy and thus sent to us for pre anaesthetic evaluation.

In preanaesthetic checkup, detailed history and examination was done. Morning dose of subcutaneous heparin was withheld for the day of surgery, however aspirin was continued. Fresh complete haemogram with the absolute platelet count, PT/INR, PTT were asked for. Blood tests revealed haemoglobin of 12 gm/dl, platelet count of 1.1 lac/mm^3 and INR 1.34. Adequate blood and blood products were arranged. High risk informed and written consent was taken. Ranitidine and metoclopramide were prescribed as oral pre-medications.

On arrival in the theatre, the patient was laid supine with a wedge under the right hip. Routine monitors (ECG, NIBP and pulse oximeter) were attached and baseline vitals recorded. Intravenous line secured with 18G cannula. As blood coagulation tests (PT/ INR, aPTT) were within normal range, a decision about spinal anaesthesia was made. Under all aseptic conditions subarachnoid block was given with 25G Quincke's spinal needle in left lateral position with 2.0 ml of 0.5% heavy bupivacaine. Patient was laid

supine with wedge under the right hip. Continuous monitoring of ECG, NIBP and blood loss was done. Supplemental oxygen was given and patient was kept well hydrated and warm. Baby cried immediately after birth and had normal APGAR score. Oxytocin infusion was started at 20 IU h^{-1}. Vitals stayed within normal limits throughout the procedure. She was shifted to high dependency unit and heparin was re-started. She was discharged from the hospital on the fourth postoperative day and was advised for regular follow-up.

DISCUSSION

Anti-phospholipid antibody (APLA) syndrome is a hypercoaguable autoimmune disorder that is associated with pregnancy complications, including preeclampsia, thrombosis, autoimmune thrombo-cytopenia, intrauterine growth retardation (IUGR) and recurrent fetal loss. APLA syndrome is primary when not associated with other autoimmune disorders, or else secondary when associated with one such as systemic lupus erythematosus (SLE).[5] In APLA syndrome patients, the most common venous event is deep vein thrombosis of the lower extremities and arterial event is a stroke. APLA syndrome is diagnosed on the basis of clinical (presence of thrombotic events and recurrent unexplained fetal loss) and laboratory criteria (presence of antibodies on two or more occasions, not less than 12 weeks apart). Treatment with aspirin and heparin should be initiated early in pregnancy to reduce the risk of further episodes of thrombosis and to improve outcome of pregnancy and continued in the postpartum period. This therapeutic approach has been found to be effective in the majority of cases with delivery of healthy babies. In non-responsive cases, alternative therapies such as intravenous immunoglobulin infusions and administration of corticosteroids may help.

The paradox of the APS is that coagulation tests indicate bleeding tendency whereas clinically patient is prone to thrombosis. The patient can present with spontaneous venous or arterial thrombosis /embolism at any site; however, the deep veins of the lower limb are most common. Women are at particularly high risk for venous thrombosis during pregnancy and in the postpartum period. Therefore anaesthesiologist should concentrate on prevention of that risk by avoiding tight/constrictive clothing, asking the patient to stop smoking, avoiding oestrogen therapy or oral contraceptive pills, facilitating venous drainage by careful positioning, advising venous compression stockings and maintaining adequate hydration. For surgery, whether to proceed with neuraxial technique or general anaesthesia is a difficult decision to make. Risks and benefits should be weighed according to the individual case, keeping in mind the patient's anticoagulant treatment, coagulation profile (INR, aPPT) and the nature of the surgery. In our case, we went for spinal anaesthesia as coagulation tests and platelet counts were within normal limits. Aspirin was continued and heparin was withheld on the morning of surgery. During spinal anaesthesia, one should avoid hypotension as these patients already suffer from placental insufficiency. Also, in the perioperative period, non pharmacological measures such as compression stockings/devices and adequate hydration have been advised.[6]

Lastly, in pregnant patients with an APLA syndrome obstetrician, physician, anaesthesiologist and paediatrician should all work as a team to improve maternal and neonatal outcome. As these pregnancies are usually precious pregnancy, so anaesthesiologist should see the patient early in third trimester so that anticoagulant medications can be planned and patient can be assessed for a safe anaesthesia.

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