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ANESTHETIC CARE FOR PREGNANT WOMEN WITH ANTIPHOSPHOLIPID ANTIBODY SYNDROME UNDERGOING LSCS

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ABSTRACT Antiphospholipid antibody syndrome (APS) is an autoimmune disorder that causes a hypercoagulable state due to antiphospholipid antibodies. These antibodies target phospholipids, causing vascular thrombosis, which can result in recurrent fetal loss and other systemic complications in pregnant women. APS syndrome can be primary or secondary, with the former being more common and of unknown origin. Secondary APS syndrome is linked to other autoimmune disorders, like systemic lupus erythematosus. In rare cases, APLA can lead to catastrophic antiphospholipid syndrome (CAPS or Asherson syndrome), which is characterized by rapid organ failure due to generalized thrombosis and a high mortality rate. Treatment with anticoagulant medication is typically necessary to reduce the risk of thrombosis and improve pregnancy outcomes. However, surgery in these patients poses a higher risk of thrombosis due to the discontinuation of anticoagulants and the increased risk of bleeding. Therefore, a multidisciplinary approach involving anesthesiologists, obstetricians, pediatricians, and rheumatologists is necessary to improve maternal and fetal outcomes. In this case report, we detail the careful anesthesiologic management of a pregnant woman with APS syndrome to ensure a safe delivery. This involved preoperative treatment with LMWH, fasting guidelines, and risk consent. During the surgery, a finer spinal needle was used to reduce the risk of spinal hematoma, and thromboprophylaxis and early mobilization were performed. Regular follow-up examinations were conducted to monitor the patient's condition.

KEYWORDS : Antiphospholipid Antibody Syndrome, Hypercoagulability, Pregnancy.

INTRODUCTION:

Antiphospholipid antibody syndrome (APS) is an acquired disorder described in 1983 as anticardiolipin syndrome. One of the defining characteristics of APS is an increased risk of thrombosis, which can occur in both veins and arteries. Three well-established APS antibodies lead to the syndrome: Lupus anticoagulant (LA), anticardiolipin antibody (aCL), and anti-β2-glycoprotein I antibody (aβ2GPI).

The clinical manifestations of APS are used to classify cases into three types: thrombotic APS, obstetric APS, and catastrophic APS (CAPS). Thrombotic APS is characterized by microvascular, venous, or arterial thrombosis; obstetric APS is characterized by obstetric complications in pregnant women, including severe preeclampsia, intrauterine growth restriction, and recurrent miscarriage; and CAPS accounts for less than 1% of APS cases and is characterized by multiorgan failure due to microthrombi. Thrombosis can affect multiple organs and tissues, leading to potentially serious complications such as deep vein thrombosis (DVT), pulmonary embolism, stroke, myocardial infarction, and renal vein thrombosis. These typical thrombotic events in veins and arteries can also lead to pregnancy-related problems such as severe preeclampsia, stillbirths, premature births, and miscarriages. The following criteria can be taken into account when diagnosing APS:

Clinical criteria :

1. Vascular thrombosis:

≥1 episode of arterial, venous (excluding superficial veins), or small vessel thrombosis involving any tissue or organ confirmed by imaging studies, Doppler studies, or histology; histologic findings should show thrombosis without inflammation of the vessel wall

2. Pregnancy morbidity:

1) ≥ one death of a morphologically normal fetus at ≥10 weeks' gestation (confirmed by ultrasound or direct examination)
2) ≥1 premature birth of a morphologically normal newborn before 34 weeks' gestation due to preeclampsia preeclampsia, eclampsia, or severe placental insufficiency
3) ≥ three spontaneous miscarriages > 10 weeks of pregnancy without anatomical or chromosomal abnormalities

Laboratory criteria :

1. LA detected in plasma on ≥2 occasions at an interval of ≥12 weeks
2. IgG and IgM anticardiolipin antibodies in plasma or serum at a moderate or high titer (i.e., > 40 GPL or MPL units or <lock>><</lock> 99th percentile) detected by a standardized ELISA method on ≥2 occasions at ≥ 12-week intervals
3. Anti-–Beta2 glycoprotein I antibodies in plasma or serum (in a titer > 99th percentile) detected by a standardized ELISA method on ≥2 occasions at intervals of ≥12 weeks

APS is diagnosed when ≥1 clinical and ≥ one laboratory criterion is fulfilled.

A high-risk APLA profile is defined as the presence of laboratory criterion 1, 2 + 3, or persistently high APLA titers. The requirements must not be applied to patients in whom the clinical manifestations of APS occur within > 12 weeks or > 5 years after the first detection of APLAs.

Case Report :

A 36-year-old female G7 P2 L1 A4 E1 with previous LSCS, a known case of primary APLS, and a known case of hypothyroidism presented to the clinic at 37 weeks gestation and five days for safe delivery. For her APLS, she was currently taking INJ. ENOXAPARIN 40mg s/c, which was discontinued 12 hours before the procedure. Previously, the patient had been taking one tablet of ASPIRIN 75mg OD, which had been discontinued for one month. Preoperative PT, PTT, and INR were in the normal range, determined on the day of surgery.

Intraoperatively, the patient was placed in the left lateral position after connection to all ASA monitors. Under strict aseptic precautions, the patient received low-dose spinal anesthesia with 2 ml 0.5% BUPIVACAINE using a 26G Quinckes Babcock needle.

Blood loss during the procedure was within the maximum allowable limit. The patient was also administered 15 units of OXYTOCIN in 1000 ml RL and 1 g of TRANEXAMIC ACID intraoperatively to limit blood loss. The patient was then transferred to the PACU, where she received 40 mg ENOXAPARIN S/C again 6 hours after surgery. During and after surgery, she wore elastic stockings, received adequate analgesics with 1 g of PARACETAMOL i.v., was adequately hydrated, and mobilized early to prevent DVT and further deterioration.

DISCUSSION:

Antiphospholipid antibody syndrome, an autoimmune disease, can result in a range of symptoms, such as hemolytic anemia, thrombocytopenia, repeated thromboembolic episodes, valve damage, and recurrent miscarriages. Women tend to be affected more than men, with a ratio of 4.5:1. Clinical signs and a positive APS serology are used to diagnose the condition. The most common antibodies associated with APS are anticardiolipin, anti-β2-glycoprotein, and lupus anticoagulant. While APS is present in about 5% of the population, only 2% of individuals show clinical manifestations of the syndrome. APS is found in 40-50% of lupus patients and can be secondary when associated with other autoimmune diseases.

Lupus anticoagulant antibodies are linked to thromboembolic events,

unlike clinical bleeding episodes. Although the exact cause of the disease is unknown, many theories have been proposed. One theory suggests that APLAs bind to endothelial cells, which triggers upregulation of adhesion molecules and increased adhesion of leukocytes, ultimately leading to a prothrombotic state that primarily targets the fetoplacental endothelium in the pregnant uterus, interfering with embryo implantation and leading to recurrent miscarriages. Patients who have suffered miscarriages in the past have better pregnancy outcomes when aspirin and heparin are used together. The therapy is initiated immediately after delivery to prevent blood loss during surgery and continues for up to six weeks. A preoperative thrombotic storm (antiphospholipid antibodies), a surgical procedure, or a change in anticoagulant therapy can result in an infection. The incidence of these problems can be reduced with intraoperative anti-embolic stockings, intermittent venous compression devices, and adequate hydration. The best possible administration of analgesics is essential to promote early mobilization, which reduces the risk of thrombotic events after surgery. Throughout the perioperative period, close monitoring for thromboembolism and bleeding is required.

CONCLUSIONS:

For optimal results in Antiphospholipid syndrome patients, a comprehensive approach is needed to prevent bleeding and clotting issues. Routine screening for pregnant women isn't necessary due to the rarity of the syndrome.

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