



A CASE OF SYSTEMIC LUPUS ERYTHEMATOSUS FOR CAESAREAN SECTION

Anaesthesiology

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ABSTRACT

Introduction : Systemic Lupus Erythematosus is a chronic multisystem disorder characterized by formation of autoantibodies against nuclear, cytoplasmic and cell membrane antigens. Most common in women of child bearing age group. Disease exacerbation, neonatal lupus, fetal loss and increased incidence of pre-eclampsia are major challenges. **Case Report :** A 26 year old woman G3P1L0A1D1 with 39 weeks amenorrhea with known history of SLE since 2 years scheduled for elective LSCS. She has bad obstetric history and on medication with Tab.Azathioprine 50mg OD, Tab.Hydroxychloroquine 200mg OD and Tab.Prednisolone 5mg BD. ANA antibodies were found to be positive but antiphospholipid antibodies were negative. Regional anaesthesia preferred over general anaesthesia because of anticipated difficult airway. Subarachnoid block performed using 2ml of 0.5% bupivacaine heavy. Surgery uneventful with minimum blood loss. **Discussion :** The peak incidence of SLE occurs between the ages of 15 and 40 years, with an estimated female-to-male incidence of 9:1. It is characterized by autoantibody production and dysfunctional immune system resulting in organ inflammation and consequent damage. SLE may be associated with secondary APS which is a multisystem disorder characterized by recurrent systemic arterial and venous thrombosis, recurrent abortion, thrombocytopenia and neurological disorders. Musculoskeletal manifestations and mucocutaneous symptoms occur frequently. Anaesthetic management of pregnant patients with SLE depends on the multisystem nature of the disease, the severity of the organ involvement and adverse effects of drugs used in treatment. **Conclusion :** Anaesthetic management of SLE requires thorough pre anaesthetic evaluation regarding organ involvement, disease activity and drug history. Pharmacological interactions between anaesthetic drugs and immunosuppressants taken into consideration.

KEYWORDS

Autoimmune, Systemic Lupus Erythematosus, Caesarean section.

INTRODUCTION

Systemic Lupus Erythematosus is a chronic multisystem disorder characterized by formation of autoantibodies against nuclear, cytoplasmic and cell membrane antigens. Most common in women of child bearing age group. Disease exacerbation, neonatal lupus, fetal loss and increased incidence of pre-eclampsia are major challenges.

CASE REPORT

A 28-year-old woman G3P1L0A1D1 with 39 weeks amenorrhea with known history of SLE since 2 years was scheduled for elective LSCS. She has bad obstetric history with 1 previous still birth and 1 previous abortion. She is on medication with Tab.Azathioprine 50mg OD, Tab.Hydroxychloroquine 200mg OD and Tab.Prednisolone 5 mg BD. ANA antibodies were found to be positive but antiphospholipid antibodies were negative. All other investigations were found to be normal. All medication were continued. In view of favorable coagulation profile, Regional anesthesia should be preferred over GA due to anticipated difficult airway. On OT table IV line secured with 18G IV cannula. Monitors connected; baseline vitals recorded. Patient positioned in left lateral position and under strict aseptic precautions, 2 ml of 0.5% bupivacaine heavy injected intrathecally into L2-L3 space with 23G Quincke's needle after free flow of CSF seen.

Baby APGAR score was normal and there were no signs of neonatal lupus. Surgery uneventful with minimal blood loss. After full recovery patient was shifted to recovery room.

DISCUSSION

The peak incidence of SLE occurs between the ages of 15 and 40 years, with an estimated female-to-male incidence of 9:1. It is characterized by autoantibody production and a dysfunctional immune system resulting in organ inflammation and consequent damage. A positive antinuclear antibody test is the characteristic laboratory test used to help diagnose lupus.

These antigens are essential to cell function with a role in transcription, translation, and cell cycle regulation. Antinuclear antibodies in infertility may be associated with implantation failure secondary to an endometriosis induced autoimmune reaction. Pregnancy outcome is influenced by placental dysfunction, the presence of antiphospholipid antibodies, preconceptional lupus activity, the severity of renal involvement, and the onset of SLE during pregnancy.

SLE may be associated with secondary APS (antiphospholipid syndrome) which is a multisystem disorder characterized by recurrent

systemic arterial and venous thrombosis, recurrent abortion, thrombocytopenia and neurological disorders. Clotting factors are also affected but tests such as partial thromboplastin time can be falsely elevated because the lupus antibodies react with phospholipids used to determine PTT. A more serious and rarer complication is the reaction of antibodies with factors VIII, IX, XII which leads to bleeding. Complete coagulation profile (BT, CT, PT, APTT) and prophylactic precautions against DVT are indicated.

SLE in pregnancy, due to above factors, may present with neonatal losses, cervicitis and infertility as in our case. The risks for other serious complications, such as pre-eclampsia, hypertension, bleeding and serious infections, are also raised two-fold to eight-fold. The foetal complications are higher rates of foetal loss, preterm birth, intra-uterine growth restriction (IUGR), and neonatal lupus syndromes (NLS). Maternal antibodies cross the placenta and lead to foetal manifestations.

Musculoskeletal manifestations and mucocutaneous symptoms occur frequently. Respiratory complications include restrictive lung disease, myopathy affecting diaphragm or chest wall muscles and interstitial infiltration secondary to treatment with cyclophosphamide and azathioprine which may potentiate need for post-operative mechanical ventilation. Thus, chest X-ray and pulmonary function test need to be obtained. Cardiac lesions include pericarditis, myocarditis which may lead to CHF and cardiac valvular lesions (Libman-Sachs endocarditis) that are usually asymptomatic. So, ECG and echocardiogram should be done. Prophylactic antibiotic is indicated for labour and delivery as they are prone for infections. Nephritis is a known complication of SLE and is a strong predictor of poor outcome. Hypertension, proteinuria and nephrotic syndrome often accompany lupus nephritis. Urine analysis, BUN, serum creatinine, electrolytes and blood sugar should be performed. Neurologic complications like peripheral neuropathy, cranial nerve palsies, psychosis, intracranial bleeding may be due to vasculitis or due to steroid therapy.

Treatment of patients with antiphospholipid antibody-associated recurrent pregnancy loss with heparin and low-dose aspirin have been shown to improve live birth rates, while patients with positive antinuclear antibodies failed to show any improvement in implantation and pregnancy rates but not proven yet and further studies going on. So, in our case LMWH was started to improve foetal outcome and it proved to be effective. Heparin potentiates the antithrombotic effects of antithrombin III, increases levels of factor Xa inhibitor, inhibits platelet aggregation and binds to the antibodies rendering them

inactive, thus improving the pregnancy outcome. This therapy is withheld at the time of delivery to reduce blood loss and restarted after delivery and should be continued for as long as 6 weeks postpartum.

Anaesthetic management of pregnant patients with SLE depends on the multisystem nature of the disease, the severity of the organ involvement and adverse effects of drugs used in treatment. Preoperatively, two units of compatible blood need to be reserved because cross-matching problems can arise due to irregular antibodies in serum. Patients on long-term corticosteroid therapy require steroid coverage. In our case, LMWH was withheld 24 h prior to surgery. There were no signs of clinical bleeding, petechial haemorrhages and the coagulation profile was normal. The patient was in remission stage of the disease. Considering the above facts, we administered regional anaesthesia in this case.

Cases are reported where successful administration of neuraxial blockade in lupus patients had been carried out provided there are no bleeding manifestations and platelet count $>50,000$ for spinal and $>1,00,000$ for epidural anaesthesia (14) Postoperatively, optimal analgesia for early mobilization should be advocated. Close monitoring for both bleeding and thromboembolic complications is required. Adequate measures should be taken to keep the patient warm.

If general anaesthesia is indicated for maternal or foetal reasons, a rapid sequence induction with cricoid pressure should be done and intubation response should be attenuated in patients having PIH.

CONCLUSION

Anaesthetic management of SLE requires thorough pre anaesthetic evaluation regarding organ involvement, disease activity and drug history. Pharmacological interactions between anaesthetic drugs and immunosuppressants taken into consideration.

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