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CASE SERIES ON SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) COMPLICATIONS DURING PREGNANCY AND PUERPERAL PULMONARY THROMBOEMBOLISM

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ABSTRACT

Systemic lupus erythematosus (sle) is a chronic, multi-system, connective tissue autoimmune disease which predominantly affects females of reproductive age. SLE is characterised by a pattern of remission and relapse and occurs in approximately one per 1,000 women. Systemic Lupus Erythematosus (SLE) during pregnancy can present significant risks for both the mother and fetus. This case series provides the clinical course, management, and outcomes of three pregnant women with SLE, highlighting the complications occurred and strategies followed to ensure satisfactory outcomes.

KEYWORDS

Systemic Lupus Erythematosus, Pregnancy, Puerperal Pulmonary Thromboembolism, Intrauterine Growth Restriction, Antiphospholipid Syndrome4

INTRODUCTION

Systemic Lupus Erythematosus (SLE) is an autoimmune disorder that can complicate pregnancy, increasing the risk of adverse outcomes such as pre-eclampsia,[1] intrauterine growth restriction (IUGR), [2]and thromboembolic events. [3]This case series describes three patients with SLE and their pregnancy outcomes, providing insights into the management and challenges associated with these high-risk pregnancies.

CASE PRESENTATIONS

Case 1: Systemic Lupus Erythematosus Complicating Pregnancy

A 24-year-old woman, Gravida 2 Para 1 Live 0, presented at 35 weeks and 2 days of gestation with complaints of headache and a blood pressure of 130/90 mmHg. Her previous pregnancy was terminated at 26 weeks due to severe pre-eclampsia. This pregnancy was a spontaneous conception, and she was diagnosed with SLE in the first trimester. She was managed with hydroxychloroquine 200 mg once daily, ecospirin 150 mg once daily, and low molecular weight heparin (LMWH) 40 mg subcutaneously once daily. Prophylactic antenatal steroid coverage was given at 34 weeks. On examination, she had mild pallor and bilateral pitting pedal edema (grade 1), with a uterus corresponding to 32-34 weeks in size and adequate liquor. Her blood pressure remained within normal limits, and a growth scan revealed late-onset asymmetrical intrauterine growth restriction (IUGR) with a normal obstetric Doppler study. At 36 weeks and 1 day of gestation, she presented with lower abdominal pain radiating to her back and leaking per vaginum. Her pervaginal examination findings revealed that she was in latent phase of labour and her NST was non reactive. An emergency lower segment cesarean section (LSCS) was performed due to non-reassuring fetal status, resulting in the delivery of a preterm male baby. The intraoperative period was uneventful. Pre and post clinical symptoms are given in the below table.

CASE 2: PUERPERAL PULMONARYTHROMBOEMBOLISM IN SYSTEMIC LUPUS ERYTHEMATOSUS

A 23-year-old woman, Gravida 2 Para 1 Live 1, developed sudden pulmonary thromboembolism on postoperative day 3 following an elective repeat LSCS performed at 38 weeks of gestation. She had a history of varicose veins in the right thigh with a normal Doppler study and was treated for anemia with 4 doses of injection iron sucrose at 26 weeks of gestation. The pulmonary thromboembolism was confirmed by a CT angiogram, and retrospectively, she was diagnosed as ANA positive. The patient had no overt signs or symptoms and lacked traditional risk factors for thromboembolism, which prompted a comprehensive workup leading to the detection of antibodies sensitive and specific for SLE. This case highlights the importance of risk stratification and thromboprophylaxis in pregnancies complicated by SLE to prevent life-threatening events.

CASE 3: PREGNANCY IN A WOMAN WITH SYSTEMIC LUPUS ERYTHEMATOSUS AND ANTIPHOSPHOLIPID SYNDROME

A 29-year-old woman, Gravida 3 Para 2 Live 2, with a known history of SLE and antiphospholipid syndrome (APS) presented at 34 weeks of gestation with severe pre-eclampsia. She was on hydroxychloroquine 200 mg once daily, aspirin 75 mg once daily, and low molecular weight heparin (LMWH) 40 mg subcutaneously once daily throughout the pregnancy. Her pregnancy was complicated by recurrent miscarriages and pre-eclampsia in previous gestations. Upon admission, she had a blood pressure of 160/100 mmHg, proteinuria (+++), and mild bilateral pedal edema. Her laboratory investigations revealed thrombocytopenia and elevated liver enzymes. Given the severity of her pre-eclampsia and the gestational age, a decision was made to proceed with delivery. She underwent an emergency LSCS under spinal anesthesia, delivering a preterm female baby with a birth weight of 1.8 kg. The postpartum period was complicated by postpartum hemorrhage, which was managed with uterotonics and blood transfusions. The patient was monitored in the intensive care unit and discharged on the 5th postoperative day in stable condition.

CLINICAL AND LABORATORY INVESTIGATIONS OF CASE SERIES

Parameter	Case 1 - Pre-treatment	Case 1 - Post-treatment	Case 2 - Pre-treatment	Case 2 - Post-treatment	Case 3 - Pre-treatment	Case 3 - Post-treatment
Hemoglobin (g/dL)	11	12	10.5	11	9.5	10.5
Platelets (x10^9/L)	150	160	140	150	100	120
Blood Pressure (mmHg)	130/90	120/80	140/90	130/80	160/100	140/90
Proteinuria	++	+	+	-	+++	+
ANA	Positive	Positive	Positive	Positive	Positive	Positive
Lupus Anticoagulant	Positive	Positive	Positive	Positive	Positive	Positive
CT Angiogram	N/A	N/A	Pulmonary embolism	No embolism	N/A	N/A
Liver Enzymes	Normal	Normal	Normal	Normal	Elevated	Normal
Obstetric Doppler	Normal	Normal	Normal	Normal	N/A	N/A
IUGR	Present	Resolved	N/A	N/A	N/A	N/A
NST	Non-reactive	Reactive	N/A	N/A	N/A	N/A

Delivery Method	Emergency LSCS	N/A	Elective LSCS	N/A	Emergency LSCS	N/A
Postpartum Hemorrhage	No	N/A	No	N/A	Yes	Resolved
D-Dimer	N/A	N/A	N/A	Elevated (2790 ng/ml)	N/A	N/A
Troponin T	N/A	N/A	N/A	Negative	N/A	N/A
Pro BNP	N/A	N/A	N/A	272 pg/ml	N/A	N/A
Lower Limb Doppler	N/A	N/A	N/A	Normal	N/A	N/A
ECHO	N/A	N/A	N/A	Mild dilation	N/A	N/A
PT-INR	Normal	N/A	Normal	1.01	Normal	N/A
APTT	Normal	N/A	Normal	N/A	Normal	N/A
BT CT	Normal	N/A	Normal	N/A	Normal	N/A
Renal Function	Normal	N/A	Normal	Normal	Normal	N/A
Temperature	Normal	N/A	Normal	100.2°F (POD-3)	Normal	N/A
Pulse Rate	Normal	N/A	Normal	120 beats/min (POD-3)	Normal	N/A
Respiratory Rate	Normal	N/A	Normal	21 breaths/min (POD-3)	Normal	N/A
SPO2	Normal	N/A	Normal	98% in room air (POD-3)	Normal	N/A

In brief , Case 1: Type of Surgery done was Emergency Lower Segment Cesarean Section (LSCS), Post-surgery Status was women Stable with resolved IUGR and normal post-operative recovery

CASE 2: Type of Surgery done was elective repeat LSCS and Post-surgery Status observed as developed pulmonary thromboembolism on postoperative day 3, managed with anticoagulant therapy and monitored for stable recovery,

CASE 3: Type of Surgery: Emergency LSCS due to severe pre-eclampsia and Post-surgery Status was complicated by postpartum hemorrhage, managed with uterotonics and blood transfusions, stable condition on discharge

DISCUSSION

Systemic Lupus Erythematosus (SLE) poses significant challenges during pregnancy, necessitating careful monitoring and management. [4] Case 1 shows that the risk of intrauterine growth restriction and the critical role of multidisciplinary care. The use of hydroxychloroquine, ecospirin, and LMWH, along with antenatal steroid coverage, was crucial in managing the pregnancy and achieving a successful outcome. This case also highlights the importance of early diagnosis and regular monitoring to assess the risks associated with SLE during pregnancy. The decision to perform an emergency lower segment cesarean section (LSCS) due to non-reassuring fetal status emphasizes the need for timely intervention in high-risk pregnancies. Case 2 was rare but severe complication of puerperal pulmonary thromboembolism in an SLE patient, emphasizing the need for vigilant risk assessment and prophylaxis. The presence of antiphospholipid antibodies in SLE patients increases the risk of thrombotic events, necessitating a thorough evaluation and preventive measures.[5] Case 3 highlights the intersection of SLE with APS and the resulting complications such as recurrent miscarriages and severe pre-eclampsia. The management of such patients requires a comprehensive approach, including the use of hydroxychloroquine, aspirin, and LMWH, and readiness to address complications like postpartum hemorrhage.

CONCLUSION

Managing SLE during pregnancy requires a collaborative approach among healthcare providers to mitigate risks and ensure favorable maternal and fetal outcomes. These cases highlight the importance of regular monitoring, risk stratification, and prophylaxis in managing SLE-associated complications during pregnancy.[5]

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