Case Report

Management of Pre-Existing Systemic Lupus Erythematosus in Pregnancy: A Case Report

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Management of Pre-Existing Systemic Lupus Erythematosus in Pregnancy: A Case Report

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Abstract

Background: Patients with systemic lupus erythematosus (SLE) often face difficulty in conceiving and may experience recurrent pregnancy losses. Therefore, achieving a successful pregnancy is particularly precious to them. **Case Summary:** We report the case of a 24-year-old primigravida with pre-existing SLE who successfully underwent labor induction at 38 weeks of gestation. Her pregnancy was managed with hydroxychloroquine, azathioprine, low-dose prednisolone, and prophylactic anticoagulation. She remained clinically stable throughout pregnancy, with no significant disease flares. Labor was induced using dinoprostone, and she delivered a healthy infant via spontaneous vaginal delivery. Postpartum management included thromboprophylaxis and close monitoring for lupus reactivation. Successful pregnancy outcomes in SLE require preconception counseling, medication optimization, and close maternal-fetal surveillance especially in low-income settings. Hydroxychloroquine plays a central role in reducing lupus activity and neonatal complications. Individualized anticoagulation strategies help mitigates thrombotic risks. This case highlights the importance of multidisciplinary collaboration in optimizing maternal and fetal outcomes. **Conclusion:** Patients with SLE can achieve favorable pregnancy outcomes with appropriate planning, medication adjustments, and vigilant monitoring. A multidisciplinary approach remains crucial in mitigating potential complications. **Core Tip:** A 24-year-old Kenyan primigravida with quiescent systemic lupus erythematosus (SLE) achieved uncomplicated term vaginal delivery under a multidisciplinary regimen of azathioprine (AZA), hydroxychloroquine (HCQ) and 5 mg prednisolone, plus prophylactic enoxaparin and aspirin. The case illustrates that continuing steroid-sparing therapy and individualized thromboprophylaxis throughout pregnancy can secure optimal maternal and fetal outcomes even in resource-limited settings.

Keywords: systemic lupus erythematosus; pregnancy; hydroxychloroquine; multidisciplinary care; thromboprophylaxis; azathioprine; case report

Introduction

Systemic lupus erythematosus (SLE) is a chronic, multisystemic autoimmune disease characterized by a relapsing and remitting course, which can be exacerbated by pregnancy [1]. The pathophysiology of SLE involves dysregulated adaptive immune responses, leading to the formation and deposition of antigen-antibody complexes, which contribute to systemic inflammation and organ damage [2].

Pregnancy in women with SLE poses unique challenges due to the profound hormonal and immunological adaptations required to support fetal development (Table 1). The interplay between autoimmune activity and pregnancy-induced immunomodulation necessitates careful medication adjustments and frequent maternal-fetal surveillance [2,3]. Historically, pregnancy was discouraged in SLE patients due to concerns about disease flares and adverse pregnancy outcomes (APO). However, advances in disease management and risk stratification have improved maternal and fetal outcomes [3,4]. Despite these improvements, pregnancy in SLE remains high-risk, requiring careful monitoring and a multidisciplinary approach [5].

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Table 1. Maternal and Fetal complications of SLE in pregnancy.

Maternal complications	Fetal / neonatal complications
Disease flare (renal, cutaneous, articular, serosal)	Spontaneous abortion
Lupus nephritis / proteinuria	Intrauterine growth restriction (IUGR)
Preeclampsia / HELLP syndrome	Preterm birth (iatrogenic or spontaneous)
Gestational hypertension	Stillbirth
Thromboembolism (arterial or venous)	Neonatal lupus (rash, cytopenias)
Gestational diabetes (steroid-related)	Congenital heart block (anti-Ro/SSA mediated)
Postpartum hemorrhage (anticoagulation-related)	Low-birth-weight infant

SLE pregnancies are associated with increased incidence of disease flares and APOs, which include maternal complications such as lupus flares, renal injury, preeclampsia, hypertension, and thromboembolism, as well as fetal complications such as miscarriage, preterm birth, intrauterine growth restriction (IUGR), congenital heart block, and neonatal lupus[2]. Studies have highlighted the role of autoantibodies, complement proteins, inflammatory cytokines, and vascular factors in contributing to these complications, although their specific contributions remain incompletely understood [2].

Case Presentation

Patient information

A 24-year-old female, primigravida, with a history of SLE diagnosed in 2021, was admitted at 38 weeks of gestation for induction of labor. Her estimated due date (EDD) was initially calculated as 17 February 2025 based on her last menstrual period; however, a first-trimester ultrasound at 11 weeks revised the EDD to 9 February 2025. She presented for labor induction at 38+0 weeks of gestation on 26 January 2025. She had no prior history of hypertension, renal impairment, or biopsy-proven lupus nephritis.

Chief Complaints

A 24-year-old primigravida presented at 38 + 0 weeks of gestation for elective induction of labor.

History of Present Illness

Pregnancy had been uneventful until admission. There were no reports of SLE flares, no per-vaginal bleeding, no preterm premature rupture of membranes, no headaches, no visual disturbances, or joint pain.

History of Past Illness

The patient was diagnosed with systemic lupus erythematosus in 2021 after presenting with a photosensitive malar rash and arthralgias in joints of the hands. Serology revealed ANA positivity, anti-dsDNA, and anti-Ro/SSA, and immunomodulatory therapy was begun. She underwent regular follow up in a peripheral center and received preconception counseling. Methotrexate was stopped pre-conception; azathioprine 100 mg daily, hydroxychloroquine 200 mg daily and prednisolone 5 mg daily were continued throughout pregnancy. Enoxaparin 40 mg SC daily and aspirin 75 mg daily were administered for thromboprophylaxis and discontinued 24 h before induction. Throughout gestation she remained clinically quiescent: blood pressure stayed 100–120/60–80 mmHg, urinalysis remained negative for protein and casts and no mucocutaneous, articular or serosal flares were recorded. Complements and anti-dsDNA were not re-checked during pregnancy due to financial constraints and in the low income setting.

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Personal and Family History

The patient is a non-smoker, reports no previous alcohol or illicit drug use, has no history of thromboembolic events, or recurrent pregnancy loss. She reports no family history of an autoimmune disease.

Physical Examination

The patient was in fair general condition. She demonstrated stable disease activity throughout pregnancy. On admission, cardiovascular, respiratory and CNS exam were unremarkable. Obstetric examination revealed a fundal height 38 cm, fetal longitudinal lie with cephalic presentation and a fetal heart rate of 144 bpm. The patients vitals were as follows: BP 108/62 mmHg, pulse 61 bpm, temperature 37.8 °C.

Diagnostic Assessment

On admission the patient's hematological parameters were within acceptable ranges, with a white blood cell count of 5.0/L, neutrophil predominance at 79.3%, hemoglobin at 13.3 g/dL, and platelets at 142 × 10^9/L. Coagulation studies showed an INR of 0.94 and a prothrombin time of 13.4 seconds, both within normal limits. The pre-induction cardiotocography (CTG) was normal.

Table 2. Serial maternal and fetal parameters during pregnancy and postpartum.

Parameter	Pre-conception / 1st trimester	2nd trimester (20–24 w)	3rd trimester (34–37 w)	On admission (38 + 0 w)	Post-partum (day 2)	Normal range / notes
Blood pressure (mmHg)	108/62	112/68	110/64	108/62	104/58	< 140/90
WBC (×10^9/L)	5.0	6.8	7.5	9.2	11.1	4.0–11.0
Neutrophils (%)	79.3	76.0	78.5	80.1	82.0	40–75
Hemoglobin (g/dL)	13.3	11.8	11.2	11.0	10.5	≥ 11.0 (pregnancy)
Platelets (×10^9/L)	142	138	135	128	130	150–450 (stable mild gestational thrombocytopenia)
Creatinine (mg/dL)	0.62	0.58	0.55	0.59	0.61	≤ 0.9 (pregnancy)
INR / PT (s)	INR 0.94; PT 13.4	INR 0.96; PT 13.2	INR 0.95; PT 13.3	INR 0.97; PT 13.1	INR 1.02; PT 13.5	(On enoxaparin)
Medication (dose)	Azathioprine 100 mg OD; HCQ 200 mg OD; Aspirin 75 mg OD; Enoxaparin 40 mg SC OD	Same	Same	Same (enoxaparin stopped 24 h before induction)	Enoxaparin 40 mg SC OD restarted 12 h post-partum; HCQ & AZA continued	
Fetal growth (ultrasound)	CRL 45 mm at 11 w (EDD 9 Feb 2025)	AC 50th percentile at 22 w	AC 48th percentile at 34 weeks; MCA-PSV normal	Fundal height 38 cm; cephalic; FHR 144 bpm	N/A	No IUGR or hydrops

Close clinical and fetal monitoring were maintained and a healthy neonate was delivered. Prophylactic enoxaparin (40 mg SC daily) and low-dose aspirin (75 mg daily) were continued throughout pregnancy according to institutional thromboprophylaxis protocol.

Laboratory Examinations

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White-cell count 5.0 × 10^9/L (neutrophils 79.3%), haemoglobin 13.3 g/dL, platelets 142 × 10^9/L; INR 0.94, PT 13.4 s; dipstick urinalysis negative, protein-to-creatinine ratio 0.10 g/g. Neonatal pulse and ECG were normal after delivery.

Imaging Examinations

Eleven-week ultrasound established gestational age consistent with EDD 9 February 2025; subsequent growth scans showed appropriate fetal size and normal amniotic fluid. Pre-induction cardiotocography was reassuring.

Multidisciplinary Expert Consultation

Joint care was provided by obstetrics (antenatal surveillance, induction planning), rheumatology (medication optimisation, flare monitoring), anaesthesia (labour analgesia and delivery backup), and neonatology (immediate newborn assessment); all teams reviewed the patient weekly during the third trimester and were present at delivery.

Final Diagnosis

Delivery of a healthy neonate in a 24-year-old primigravida, with pre-existing SLE, at 38 + 0 weeks of gestation.

Treatment

The patient received pre-conception counseling. Before pregnancy, teratogenic medications such as methotrexate were discontinued. She attended six antenatal visits, during which monitoring was done through blood pressure checks, and fetal growth ultrasounds. Azathioprine (100 mg once daily), prednisolone (5 mg once daily), and hydroxychloroquine (200 mg once daily) were maintained during pregnancy. Low-dose aspirin (75 mg once daily) and enoxaparin (40 mg once daily) were also maintained during pregnancy to prevent thrombosis but were discontinued one week before admission for induction of labor. Dinoprostone was administered for labor induction, with close monitoring for labor progression, fetal well-being, and SLE flare-ups. Anticoagulation therapy with enoxaparin was resumed 12 hours after delivery to prevent thrombotic events. Postpartum, cardiac assessments (ECG and echocardiography) were performed to evaluate for SLE-related cardiac complications.

Rationale for Immunosuppressive Choices

Hydroxychloroquine 200 mg once daily was continued throughout pregnancy; it reduces maternal flares and neonatal lupus risk and is endorsed by current reproductive rheumatology guidelines [4]. Azathioprine 100 mg once daily was maintained to preserve disease control while avoiding teratogenic agents such as mycophenolate or methotrexate [3,5]. Prednisolone 5 mg once daily was continued as the corticosteroid of choice because placental 11β-hydroxysteroid dehydrogenase largely inactivates maternal prednisolone, limiting fetal exposure. Low-dose was maintained to prevent risks associated with corticosteroid use in pregnancy including gestational diabetes and hypertension [3]. Enoxaparin 40 mg subcutaneously once daily was used for thromboprophylaxis based on local risk assessment; it was stopped 24 h before induction of labour and restarted 12 h post-partum to balance bleeding and thrombotic risk

Outcome and Follow-Up

Mother: no flare, BP stable, discharged day-2. Infant: female, 3.1 kg, Apgar 9/10, normal neonatal examination; both reviewed at 6 weeks, remained well.

Discussion

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Pre-Conception Care

Patients with systemic lupus erythematosus (SLE) often face difficulty in conceiving and may experience recurrent pregnancy losses. Therefore, achieving a successful pregnancy is particularly precious to them. With careful planning, close monitoring, and a multidisciplinary approach, patients with SLE can have successful pregnancies with optimal maternal and fetal outcomes [4]. The American College of Rheumatology provides evidence-based guidelines that emphasize a multidisciplinary team approach involving rheumatologists, maternal-fetal medicine specialists, neonatologists, and other relevant specialists, given the increased risk of maternal and fetal complications [6].

As active SLE at conception is a strong predictor of adverse pregnancy outcomes, planned pregnancies during periods of disease quiescence are recommended [5]. Effective contraception is critical for preventing unplanned pregnancies during active disease. Although oral contraceptives have been deemed safe in randomized controlled trials, they should be avoided in patients with antiphospholipid antibodies due to the increased risk of thrombosis [7]. Progesterone-only contraceptives are an option but should be used cautiously, particularly long-term depot preparations, which may negatively impact bone mineral density. The intrauterine device remains a viable and safe option for many women with SLE [8].

Moreover, women should maintain stable disease activity for at least six months before conception to minimize pregnancy risks [3,5]. Risk stratification should be individualized based on disease activity, organ involvement, comorbidities, and autoantibody profiles, particularly the presence of antiphospholipid antibodies, anti-Ro/SSA, and anti-La/SSB antibodies, which are associated with increased risks of thrombosis, congenital heart block, and neonatal lupus [3,4].Contraindications to pregnancy include severe pulmonary hypertension, advanced renal insufficiency (creatinine >2.8 mg/dL), severe heart failure, and a history of severe preeclampsia or HELLP syndrome despite therapy. In such cases, pregnancy should be deferred or avoided [3].

The preconception period is also the optimal time to assess and adjust medications to ensure both maternal disease control and fetal safety. Certain medications, such as methotrexate, mycophenolate mofetil, and cyclophosphamide, are teratogenic and should be discontinued well in advance of conception, with appropriate substitutions made [9]. Hydroxychloroquine is recommended during pregnancy due to its role in reducing lupus flare risk and improving pregnancy outcomes. Angiotensin-converting enzyme inhibitors and nonsteroidal anti-inflammatory drugs should be avoided in late pregnancy due to fetal renal effects [3].

Healthcare providers and patients should be encouraged to openly discuss pregnancy risks, potential complications, and management strategies. A structured reproductive health discussion during routine visits can facilitate effective pregnancy planning. Asking whether the patient wants to get pregnant in the next year can prompt timely reproductive counseling and intervention [3].

Management During Pregnancy

The management of pregnancy in women with Systemic Lupus Erythematosus requires careful, individualized assessment, particularly regarding medication safety and the timing of anticoagulation therapy. Hydroxychloroquine remains the cornerstone of SLE treatment during pregnancy due to its favorable safety profile and its ability to reduce disease flares, congenital heart block, and neonatal lupus syndrome [10]. Low-dose corticosteroids,ideally below 20 mg/day, are considered safe, while discontinuation of aspirin and heparin before delivery is essential to minimize the risk of peripartum hemorrhage [4].Azathioprine is generally safe, although some studies have raised concerns about potential developmental delays in offspring. Thus, the advice is to limit the azathioprine dose to 2mg/kg/day and explain the probability of late effects in the child to the mother [4,5]. Calcineurin inhibitors, such as tacrolimus or cyclosporine, may be considered for severe cases. Antihypertensives such as methyldopa, labetalol, nifedipine, and hydralazine are preferred for managing hypertension, though labetalol may be associated with intrauterine growth restriction [11]. Low-dose aspirin and heparin are considered safe for thrombosis prevention in patients with APS.

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Medications like methotrexate, mycophenolate, cyclophosphamide, and leflunomide must be discontinued at least three months before conception due to their teratogenic risks [3].

During the first trimester, routine monitoring should include blood pressure checks, assessment of lupus disease activity, and laboratory tests such as complete blood count (CBC), renal function, complement levels (C3, C4), and double-stranded DNA (dsDNA) antibody levels [3,4]. An early fetal ultrasound is essential to confirm intrauterine pregnancy and determine gestational age. Medication management is crucial, with hydroxychloroquine continued unless contraindicated. Low-dose aspirin (81 mg/day) should be initiated to reduce the risk of preeclampsia [5]. For patients with obstetric antiphospholipid syndrome, prophylactic heparin should be started, while those with thrombotic antiphospholipid syndrome require full-dose anticoagulation [12].

In the second trimester, women positive for anti-Ro/SSA or anti-La/SSB antibodies should undergo serial fetal echocardiograms between weeks 16 and 25 to monitor for congenital heart block [5]. Glucose screening is advised, as chronic corticosteroid use may increase the risk of gestational diabetes. Close monitoring for lupus flares, preeclampsia, and fetal growth restriction is also necessary [4].During the third trimester, blood pressure checks, lupus disease activity assessments, and fetal growth ultrasounds should continue. Doppler sonography may be used to evaluate fetal and placental blood flow in cases of intrauterine growth restriction. Labor and delivery planning should be tailored to the specific conditions of both mother and baby [3].

In our case, the patient's stable disease course and well-controlled pregnancy highlight the importance of regular antenatal monitoring and adherence to recommended treatment guidelines. Induction of labor was chosen to optimize both maternal and fetal outcomes, helping to minimize the risk of lupus-related pregnancy complications. The decision to resume anticoagulation postpartum followed best practices, balancing the need to prevent thrombotic events while managing hemorrhagic risks. The success of the patient's management was a result of a collaborative, multidisciplinary approach, involving rheumatologists, obstetricians, and intensivists. Their timely recognition of complications and provision of individualized therapy contributed significantly to a positive, albeit complex, perinatal outcome.

By implementing thorough preconception care, optimizing disease control, and ensuring appropriate medication use, women with SLE can achieve improved pregnancy outcomes with reduced risks of maternal and fetal complications.

Conclusion

Managing pregnancy in SLE patients requires careful preconception planning, close monitoring, and a multidisciplinary approach. This case underscores the significance of personalized treatment strategies in optimizing outcomes for both mother and child. **PATIENT PERSPECTIVE**

The patient was grateful for the regular follow up and care she received. She appreciated the importance of communication and emotional support from the healthcare team, which alleviated her anxiety and contributed to a positive pregnancy experience.

Ethical Considerations: The patient gave informed written consent for the publication of this case report. To preserve confidentiality, all patient identifiers have been removed.

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