CASE REPORT

Pregnancy in a Woman with Systemic Lupus Erythematosus with Lupus Nephritis

Jhembert M. Lingan, MD and Noel D. Espallardo, MD, MSc, FPAFP

A 26-year-old Filipino woman, gravida 4 para 0 (G4P0), with systemic lupus erythematosus (SLE) and lupus nephritis (LN), presented at 7 weeks of gestation. Her history included three previous pregnancy losses, including a stillbirth due to eclampsia. Following pregnancy confirmation, medications were adjusted to pregnancy-compatible immunosuppressants and antihypertensives. At 13 weeks, her disease remained quiescent, with persistent proteinuria and stable platelets. The patient remains under outpatient surveillance with plans for referral to tertiary maternal-fetal medicine (MFM) care. This case illustrates management challenges in lupus nephritis during pregnancy, emphasizing early risk stratification, safe pharmacotherapy, and coordinated multidisciplinary care in a low-resource setting.

Key words: Systemic lupus erythematosus, lupus nephritis, end-organ dysfunction, pregnancy, multidisciplinary care

Introduction

Systemic lupus erythematosus (SLE) is a chronic, multisystem autoimmune disease that predominantly affects women of reproductive age. Approximately 50–60% of patients with SLE develop renal involvement, known as lupus nephritis (LN) (Ghozloujeh et al., 2024). Pregnancy in women with SLE and LN represents a complex immunological challenge where maternal tolerance and autoimmunity intersect. Aberrant immune activation, complement dysregulation, and endothelial injury contribute to placental inflammation, thrombosis, and impaired spiral artery remodeling, leading to placental insufficiency and complications such as preeclampsia, fetal growth restriction, and preterm birth. Pre- eclampsia is a serious multisystem disorder of pregnancy characterized by new-onset hypertension after 20 weeks of gestation, accompanied by proteinuria or end-organ dysfunction (Ghozloujeh, et. al., 2024).

Lupus nephritis amplifies these risks by driving systemic inflammation and oxidative stress, resulting in hypertension and proteinuria that can mimic preeclampsia. A meta- analysis similarly reports increased rates of gestational hypertension, proteinuria, and reduced rates of live births in pregnancies complicated by LN in comparison to SLE without nephritis (Wu et al., 2018). Differentiating a lupus flare from preeclampsia is difficult, as both share overlapping clinical and laboratory features, while physiological changes in pregnancy may obscure traditional markers such as complement levels and anti-dsDNA titers (Elahi et al., 2024).

Successful pregnancy outcomes have been documented in women with lupus nephritis, particularly when the disease is quiescent at conception and managed in coordination with rheumatologists and obstetricians familiar with high-risk pregnancies. Current guidelines from the American College of Rheumatology (2020), the European Alliance of Associations for Rheumatology (EULAR, 2023), and the Kidney Disease: Improving Global Outcomes (KDIGO, 2024) emphasize that conception should ideally occur during a period of disease quiescence lasting at least six months. The safe continuation of pregnancy-compatible medications such as hydroxychloroquine and azathioprine, and the early discontinuation of teratogenic agents including ACE inhibitors and SGLT2 inhibitors, are strongly recommended to optimize both maternal and fetal outcomes.

Despite advances in guideline-directed care, the implementation of multidisciplinary management for lupus nephritis remains challenging in resource-limited settings. In the Philippines, rheumatology and high-risk obstetric services are scarce and often concentrated in urban centers, making timely referrals and collaborative management difficult for patients in rural areas. Disparities in physician training, patient education, and access to specialized care contribute significantly to the burden of lupus in the country. A cohort of newly diagnosed SLE patients in Manila showed high rates of renal organ damage early in the disease course, reflecting delays in diagnosis and treatment (Suilan & Osio-Salido, 2024). These system-level barriers limit opportunities

Samar Island Institute of Medicine- Samar State University

for preconception counseling, safe medication adjustments, and continuous disease monitoring, thereby increasing the risk of adverse maternal and fetal outcomes among women of reproductive age with lupus nephritis (Navarra et al., 2020).

This report presents a 26-year-old woman with systemic lupus erythematosus and lupus nephritis who achieved a viable 13-week pregnancy despite a history of recurrent pregnancy loss. It underscores the clinical and systemic challenges of balancing maternal disease control and fetal safety in a low-resource environment and demonstrates how evidence-based pharmacologic adjustments and multidisciplinary coordination can improve outcomes in similar contexts.

The Case

Patient Demographics and Background

A 26-year-old Filipino female with a body mass index (BMI) of 32 kg/m^2 (Class I obesity per WHO, Class II obesity per Asia-Pacific classification), a pre-pregnancy weight of 75 kg, height of 1.53 m, and current weight of 78 kg, from Brgy. Bunuanan, Catbalogan City, was found to have a confirmed intrauterine pregnancy at seven weeks of gestation. The pregnancy was incidentally discovered at the hospital where she was scheduled to receive an intravenous infusion of cyclophosphamide 1 gram for systemic lupus erythematosus (SLE) maintenance therapy, originally planned for April 15, 2025. The infusion was deferred upon confirmation of pregnancy. She was classified as gravida 4, para 0 (G4P0).

She had a five-year history of SLE, diagnosed at age 21, complicated by lupus nephritis (class not documented) and intermittent thrombocytopenia during disease flares. She also had pre-existing hypertension, first identified during her initial pregnancy, which was complicated by eclampsia at 28 weeks of gestation.

Her obstetric history included three prior pregnancy losses: a stillbirth at 29 weeks during her first pregnancy, and two first-trimester miscarriages at 10 and 8 weeks, respectively. No prior investigations for recurrent pregnancy loss had been conducted, and screening for antiphospholipid antibody syndrome (APS), as recommended by the European Alliance of Associations for Rheumatology (EULAR), was not performed due to resource limitations. In the Philippines, recurrent pregnancy loss is increasingly linked with immunologic causes including APS, as shown in PGH's retrospective RPL study (Mondragon et al., 2016) which found that many women with RPL had untested APS serologies.

Her menstrual cycles were regular, with a last menstrual period dated March 22, 2025. The pregnancy was unplanned and occurred while she was on maintenance SLE medications, including prednisone 10 mg daily, hydroxychloroquine 200 mg, amlodipine 10 mg, enalapril 5 mg, and dapagliflozin 10 mg.

Current Pregnancy

The pregnancy was unplanned and incidentally identified during a routine infusion appointment, which was subsequently cancelled. At the time of conception, the patient's SLE was considered quiescent. At 13 weeks of gestation, the pregnancy remains clinically stable without evidence of lupus flare. Preconception counseling was not conducted, and no medication adjustments were made prior to pregnancy.

Following confirmation of pregnancy, her medication regimen was modified to accommodate fetal safety while maintaining disease control, as presented in Table 1. The patient's previous regimen included prednisone 10 mg, amlodipine 10 mg, enalapril 5 mg, dapagliflozin 10 mg, and hydroxychloroquine 200 mg daily. Upon transition to pregnancy-safe medications, enalapril and dapagliflozin were discontinued. Azathioprine was initiated at 50 mg twice daily for immunosuppression. Prednisone (10 mg daily) and hydroxychloroquine (200 mg daily) were continued. For hypertension, methyldopa 500 mg twice daily was started in accordance with pregnancy safety recommendations. She was also prescribed calcium with vitamin D and minerals, and folic acid 5 mg once daily.

Table 1. Medication regimen before and during pregnancy.

Medication	Pre-Pregnancy Dose	Pregnancy Adjustment
Prednisone	10 mg daily	Continued
Hydroxychloroquine	200 mg daily	Continued
Enalapril	5 mg daily	Discontinued
Dapagliflozin	10 mg daily	Discontinued
Amlodipine	10 mg daily	Discontinued
Azathioprine	Not used	Started; 50 mg BID
Methyldopa	Not used	Started; 500 mg BID
Calcium + Vitamin D + Minerals	Not used	Started; once a day
Folic Acid	Not used	Started; 5 mg daily

Early monitoring included regular blood pressure checks, with the most recent reading at 130/90 mmHg. Weight gain of 3 kilograms was noted from her pre-pregnancy baseline. Table 2 summarizes her most recent laboratory results. Hemoglobin (157 g/L) and hematocrit (0.46) were within or slightly above normal limits. Red cell indices showed mildly decreased mean corpuscular volume (MCV), mean corpuscular hemoglobin (MCH), and mean corpuscular hemoglobin concentration (MCHC). Platelet counts were within the normal range as of June 19, 2025. However, proteinuria persisted at +3 on urinalysis, consistent with ongoing lupus nephritis despite clinical quiescence.

Table 2. Early pregnancy laboratory and monitoring results (June 19, 2025).

Test	Result	Reference Range	Interpretation
WBC	5.78 x10^9/L	4.0–11.0 x10^9/L	Normal
RBC	4.0 x10^{12}/L	4.0–5.5 x10^{12}/L	Lower Normal
Hemoglobin	157 g/L	120–160 g/L	Normal
Hematocrit	0.46	0.37–0.47	Normal
MCV	73.60 fL	80-99 fL	Low
MCH	23.20 pg	27-31 pg	Low
MCHC	316 g/L	323-379 g/L	Low
Platelet Count	233 x10^9/L	150–400 x10^9/L	Normal
Urine Parameters:	+3	Negative	Abnormal – Consistent with LN

No structured nutritional guidance or formal dietary counseling was documented at the time of reporting. No specific interventions were implemented to address pre-pregnancy obesity or potential gestational diabetes mellitus (GDM) risk. Physical activity was notably absent, with no engagement in exercise or prenatal fitness activities.

Currently, the patient has not yet been connected with a high-risk obstetrician due to limited local resources. Referral to the Eastern Visayas Medical Center (EVMC) in Tacloban City is being pursued. A significant challenge in her ongoing care is the need for long-distance travel to access specialist services. Although Catbalogan City is considered an urban area, specialized obstetric and rheumatologic services are unavailable locally. Each visit to the tertiary center in Tacloban requires approximately 2–3 hours of land travel per way, often involving multiple public transportation transfers. This lengthy commute imposes considerable physical, financial, and emotional strain, particularly for a pregnant patient with chronic illness.

Social/Family Context

The patient is supported by her live-in partner, who accompanies her on medical visits. Emotional and psychosocial challenges were reported. Upon confirmation of the unplanned pregnancy, the patient expressed fear and ambivalence, which was mitigated through support from her partner and rheumatologist. She currently expresses resolve and hope that the pregnancy will progress favorably.

The patient leads a sedentary lifestyle, with no engagement in exercise or prenatal physical activity. Goals related to dietary and weight management and physical activity encouragement were discussed upon gathering this data but the patient expressed low motivation and limited confidence regarding lifestyle change, which is influenced by limited family support as relatives reportedly do not aggressively encourage weight loss and other household members are themselves overweight.

She is a homemaker who lives with her partner and extended family. She denies active tobacco or alcohol use but reports exposure to secondhand cigarette smoke from her uncles at home. There is no family history of autoimmune or renal disease. Her mother had hypertension and died of a cerebral aneurysm. She has no known drug or food allergies.

Discussion

Women with systemic lupus erythematosus (SLE) should aim to conceive during a sustained period of disease remission lasting at least six months, ideally after transitioning to pregnancy-compatible medications such as hydroxychloroquine and azathioprine (Andreoli et al., 2017; Sammaritano et al., 2020; Moroni & Ponticelli, 2022). These recommendations underscore the importance of planned pregnancy, coordinated care between rheumatology and obstetrics, and early screening for antiphospholipid syndrome (APS)—a step that was unfortunately not performed in this case due to logistical and resource constraints. Studies have also shown that when SLE is inactive and managed through multidisciplinary collaboration, including prophylaxis for nephritis and other risk factors, maternal outcomes significantly improve (Mecacci, et. al., 2019). Adherence to these preconception principles could have enabled more precise risk stratification and safer medication adjustments before conception.

Teratogenic agents, including enalapril and dapagliflozin, were appropriately discontinued following pregnancy confirmation. The patient's transition to azathioprine, methyldopa, hydroxychloroquine, and prednisone reflects evidence-based pharmacotherapy aligned with international guidelines (KDIGO, 2024; Sammaritano et al., 2020). Continued use of hydroxychloroquine is particularly noteworthy, given its strong association with reduced flare risk, improved placental function, and lower rates of disease activity during pregnancy (Moroni & Ponticelli, 2022). Ongoing monitoring remains crucial, as both disease flares and uncontrolled hypertension contribute significantly to adverse maternal and fetal outcomes.

Laboratory findings revealed mild reductions in red cell indices (MCV, MCH, MCHC) despite normal hemoglobin and hematocrit, suggestive of early microcytic changes. This may indicate evolving iron deficiency—common in pregnancy and chronic inflammatory states such as SLE—warranting continued hematologic monitoring and nutritional evaluation. Persistent proteinuria remains consistent with pre-existing lupus nephritis and necessitates vigilant differentiation from superimposed preeclampsia in later trimesters, a diagnostic challenge often encountered in similar clinical contexts.

Two other significant comorbidities were present at conception: obesity and chronic hypertension. Both are independently associated with adverse pregnancy outcomes and, when combined with SLE, substantially elevate the risk for gestational diabetes mellitus (GDM), preeclampsia, and placental insufficiency. The patient's pre-pregnancy BMI of 32 kg/m^2 (Class II obesity) represents a modifiable risk factor that could have been addressed through early counseling. Recent multicenter cohort data report that overweight or obese women with SLE (BMI $\geq$25 or $\geq$30) have nearly double the odds of adverse pregnancy outcomes compared with those of normal weight (Boivin et al., 2024).

Attempts to promote weight management and physical activity were met with low motivation and hopelessness, reflecting psychosocial and environmental barriers to lifestyle modification. Family influences and limited social reinforcement further contributed to sedentary behavior. The absence of structured antenatal education represents an additional gap that could otherwise enhance engagement, adherence, and early complication recognition. Community-based interventions, such as the involvement of community health workers, have been shown to address biopsychosocial needs by providing healthcare referrals, education, and social support, thereby improving health outcomes in populations with lupus (Hasan et al., 2022). In this setting, family physicians could also play a crucial role in reinforcing patient education and continuity of care.

While these medical and behavioral factors influence maternal outcomes, they are further compounded by systemic barriers in healthcare delivery. Management of high-risk pregnancies among women with autoimmune diseases such as SLE requires multidisciplinary coordination between rheumatologists, nephrologists, and high-risk obstetricians. However, this approach remains difficult to implement in resource-limited settings. The patient's residence in a semi-urban community lacking obstetricians trained in high-risk pregnancy underscores this systemic gap.

Geographic distance also compounds these challenges: each visit to Tacloban City, where specialist services are available, entails approximately 2–3 hours of travel per way and multiple transport transfers, imposing physical, financial, and emotional strain. These barriers mirror findings in Philippine rheumatology literature, which highlight the concentration of specialty care in urban centers and the resulting inequities in access to continuous, coordinated care (Navarra et al., 2019). Emerging digital health solutions, including telemedicine consultations, remote blood pressure and proteinuria monitoring, and mobile health applications, offer a promising adjunct to traditional care models. Such technology can facilitate timely specialist input, patient education, adherence monitoring, and early detection of complications, particularly in patients who face geographic or mobility barriers (Valencia et al., 2023). Strengthening local family medicine capacity and telehealth coordination could help bridge these gaps in the interim.

Despite these limitations, the patient's current management demonstrates that individualized, evidence-based care remains possible even in low-resource settings when coordination is sustained. Continued close monitoring is warranted throughout the remainder of the pregnancy, with emphasis on blood pressure control, renal function surveillance, and fetal growth assessment. Referral to a tertiary facility with maternal-fetal medicine (MFM) expertise, such as Eastern Visayas Medical Center, remains a priority to ensure collaborative high-risk care. Postpartum, the patient should undergo a thrombophilia workup, including antiphospholipid antibody testing, as part of a comprehensive evaluation for recurrent pregnancy loss. Long-term, she would benefit from structured nutritional counseling, psychosocial support, and ongoing rheumatology follow-up to address modifiable risk factors, optimize reproductive health, and improve overall quality of life.

Conclusion

This case underscores the complex interplay between lupus nephritis, high-risk pregnancy, and systemic healthcare limitations in resource-constrained settings. Early recognition, timely medication adjustments, and pregnancy-compatible pharmacotherapy are vital to achieving favorable maternal and fetal outcomes. Strengthening multidisciplinary coordination, expanding access to specialist care, and integrating community-based antenatal education and lifestyle support are essential steps toward improving reproductive health outcomes for women with systemic lupus erythematosus in similar contexts.

Personal Reflection on Patient Care

Caring for this patient and her extended family was an eye-opening experience that deeply shaped my understanding of medicine. Coming from a family marked by multiple tragic losses—her mother from an aneurysm related to hypertension, her father from a heart attack, and her youngest sibling from nasopharyngeal carcinoma—I was confronted with the harsh reality of how devastating disease can be. Initially, the enormity of these challenges felt overwhelming, almost hopeless. However, as I assessed their family dynamics, I realized that their social resources and familial support were vital buffers, helping them navigate complex medical needs despite financial and emotional hardships. Witnessing this resilience reinforced the importance of understanding patients holistically, beyond just their clinical presentation.

This experience also crystallized for me what it truly means to be a doctor. While medicine often intersects with financial and technological resources, the core of the profession lies in serving those who lack such advantages. Providing care to patients who are financially constrained, ensuring they receive the attention and support they need, embodies the essence of practicing medicine with compassion and purpose. This encounter reminded me that being a doctor is not simply a profession of knowledge, but also a vocation of empathy, commitment, and the unwavering desire to make a difference in the lives of those who need it most.

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