

A Rare Case of a Pregnant Woman with Severe Thrombocytopenia Associated with Systemic Lupus Erythematosus

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ABSTRACT

This case report describes a 22-year-old pregnant woman with systemic lupus erythematosus (SLE) and severe thrombocytopenia at 32 weeks of gestation with dichorionic diamniotic (DCDA) twins. She had a platelet count of 3,000/ μ L, persistent thrombocytopenia despite transfusions, and symptoms including rashes and muscle cramps. Diagnosis was confirmed with a positive antinuclear antibody (ANA) test. Treatment included methylprednisolone pulse therapy, hydroxychloroquine, and intravenous immunoglobulin (IVIG).

At 34 weeks and 4 days, the patient went into preterm labor and underwent a cesarean section. Preoperative platelet transfusions raised her platelet count to 51,000/ μ L. Both twins were delivered safely and admitted to the NICU for prematurity. Postoperative care included immunosuppressive therapy, antihypertensives, and antibiotics, with steady improvement in the patient's condition and platelet count.

This case highlights the challenges of managing SLE with severe thrombocytopenia during pregnancy, especially with twins. Early diagnosis, tailored treatment, and coordinated multidisciplinary care led to positive maternal and neonatal outcomes. This emphasizes the importance of proactive management in high-risk pregnancies to ensure the best possible results.

KEYWORDS: Systemic Lupus Erythematosus, Pregnancy Complications, Lupus Flares, High-Risk Pregnancy, Maternal and Neonatal Outcomes

INTRODUCTION

Systemic lupus erythematosus (SLE) is a chronic autoimmune disease that predominantly affects women of reproductive age. Pregnancy in women with SLE is associated with an increased risk of adverse outcomes, including preeclampsia, fetal growth restriction, preterm delivery, and disease flares.^[1, 2] Advances in immunosuppressive therapies and multidisciplinary care have improved maternal and fetal prognosis; however, pregnancy remains a high-risk condition requiring meticulous planning and monitoring.^[3, 4]

The interplay between pregnancy and SLE activity is complex, as physiological changes during pregnancy can exacerbate autoimmunity.^[5, 6] Disease activity at conception, renal involvement, and primigravida are among the key predictors of adverse outcomes.^[2, 7] Recent consensus guidelines emphasize the importance of preconception disease control, use of compatible medications, and close antenatal care to mitigate risks.^[6, 8]

This case report details the complex management of a pregnant patient with SLE and severe thrombocytopenia, highlighting the importance of individualized treatment and coordinated care in high-risk pregnancies.

CASE REPORT:

Clinical Findings and Initial Management: A 22-year-old homemaker, gravida 2, abortion 1, at 32 weeks of gestation with dichorionic diamniotic (DCDA) twins, presented to our tertiary care hospital with lower abdominal pain and intermittent watery vaginal discharge for one week. The patient had been receiving antenatal care at a private clinic, where regular ultrasounds were performed. She had experienced an early miscarriage one year prior, managed by dilation and curettage. Her current pregnancy was

spontaneous, with cervical cerclage placed at four months gestation due to cervical incompetence. The patient was on 200 mg of Naturogest daily and received intravenous iron at seven months for moderate anemia. She had no history of hypertension, diabetes mellitus, or thyroid disorders.

Clinical Findings and Initial Management: Upon examination, the patient appeared moderately built and nourished without signs of pallor, edema, or jaundice. Vital signs were stable. Abdominal examination revealed an overdistended uterus with multiple fetal parts. Fetal heart rates were 140 bpm for Twin A and 150 bpm for Twin B. Ultrasound performed at admission showed normal growth and amniotic fluid levels for both twins.

Laboratory evaluation revealed severe thrombocytopenia, with a platelet count of 3,000/ μ L and hemoglobin level of 11.3 g/dL. White blood cell morphology was normal, with a count of 7,900/ μ L. Given normal blood pressure and liver function tests, HELLP syndrome was ruled out. Further evaluation for thrombocytopenia showed a normal peripheral smear morphology, normal vitamin B12 levels, and negative dengue serology. During hospitalization, the patient developed severe muscle cramps and rashes on her chest and abdomen. Persistent thrombocytopenia, despite platelet transfusion, prompted consultation with hematology and rheumatology. An antinuclear antibody (ANA) profile was positive for nRNP/SM antibodies, confirming a diagnosis of systemic lupus erythematosus (SLE).

Treatment Course: The patient was started on pulse therapy with intravenous methylprednisolone (500 mg for 5 days) and oral hydroxychloroquine, alongside a regimen of oral prednisone (30 mg in the morning and 20 mg in the evening). Despite multiple platelet transfusions, thrombocytopenia persisted, prompting the addition of intravenous immunoglobulin (IVIG) as adjunctive therapy.

Delivery and Obstetric Management: At 34 weeks and 4 days of gestation, the patient developed preterm labor. Given her high-risk status, the cervical cerclage was removed, and corticosteroids (dexamethasone) were administered for fetal lung maturation. Due to her multiple risk factors, a cesarean section was planned following adequate transfusion of single-donor platelets (SDP). Preoperatively, two units of SDP were transfused, increasing the platelet count to 51,000/ μ L. The patient and her family received thorough counseling, and informed consent for cesarean section was obtained.

Labor and Delivery: The patient underwent an emergency lower segment cesarean section (LSCS) under general anesthesia at 34 weeks and 4 days gestation. Intraoperatively, she received two units of SDP and three units of random-donor platelets (RDP). Both neonates were vigorous at birth, weighing 1.6 kg and 1.7 kg, respectively, and were admitted to the neonatal intensive care unit due to prematurity. Postpartum hemorrhage (PPH) risk was mitigated through active management of the third stage of labor and administration of 1 g intravenous tranexamic acid. The uterus was sutured

in two layers, with no intraoperative complications.

Postoperative Care and Monitoring: The patient was monitored in the intensive care unit (ICU) for thrombocytopenia and postoperative hypertension (160/100 mmHg). Blood pressure was managed with metoprolol, resulting in stabilization at 150/90 mmHg. Immediate postoperative platelet count was noted to be 123,000/ μ L. Postoperative management included antibiotics (Augmentin and pantoprazole), analgesics, and tranexamic acid to prevent hemorrhage. Immunosuppressive therapy with hydroxychloroquine and corticosteroids was continued, with dosing adjusted per rheumatology recommendations.

Discharge and Follow-Up: The patient was discharged on postoperative day 11 with oral hydroxychloroquine, prednisone, azathioprine, and Eltrombopag (an oral thrombopoietin receptor agonist) to support platelet production. At follow-up on postoperative day 18 and subsequent outpatient visits, the patient showed gradual improvement in platelet count. Prednisone tapering was required due to side effects, including back pain and nail hyperpigmentation. Ongoing follow-up with rheumatology was recommended for further management.

DISCUSSION

This case highlights the challenges of managing severe thrombocytopenia and SLE during pregnancy, particularly in the setting of DCDA twins. Prompt multidisciplinary intervention and individualized therapy were crucial in achieving a favourable maternal and neonatal outcome. Systemic lupus erythematosus (SLE) during pregnancy presents unique challenges due to the interplay between autoimmune activity and pregnancy-related physiological changes. Women with SLE face a higher risk of adverse maternal and fetal outcomes, emphasizing the importance of multidisciplinary care and individualized management strategies.

Khan et al.^[1] reported a decade-long analysis of pregnancies complicated by SLE, highlighting the importance of preconception disease control and close antenatal monitoring to optimize outcomes. Their findings underscored that active disease at conception significantly increases the risk of preeclampsia, fetal growth restriction, and preterm delivery, which aligns with the management goals in our case. Lu et al.^[2] identified several risk factors influencing pregnancy outcomes in SLE, including renal involvement and elevated disease activity during gestation. Our patient's disease was carefully managed, avoiding significant flares and illustrating the benefits of controlling lupus activity before and during pregnancy.

The risk of flares during pregnancy remains a critical concern. Seyed-Kolbadi et al.^[4] demonstrated that lupus activity impacts maternal and neonatal outcomes, especially in patients undergoing assisted reproductive therapy. In our case, the absence of significant flare-ups highlights the importance of maintaining low disease activity with a

tailored immunosuppressive regimen.

Antenatal corticosteroid use is another pivotal consideration. Stock et al.^[8] detailed the role of corticosteroids in improving neonatal outcomes in cases of preterm delivery. Our patient's management strategy incorporated judicious use of corticosteroids, which may have contributed to favorable neonatal outcomes.

Systematic reviews by Zhang et al.^[3] and meta-analyses by Mohammed et al.^[6] consistently underline the importance of disease control, the timing of pregnancy, and the role of collaborative care in reducing complications. These principles were evident in the positive outcome achieved in our case despite the complexities associated with SLE in pregnancy.

Saavedra et al.^[7] noted that primigravidity could predispose to higher flare rates in women with SLE. While our patient did not experience flares, this underscores the need for heightened vigilance in managing first pregnancies among SLE patients.

This case highlights the importance of individualized management plans, early multidisciplinary intervention, and adherence to updated guidelines to ensure optimal outcomes for both mother and foetus. Further studies are warranted to refine these strategies and reduce the burden of adverse outcomes in this high-risk population.

CONCLUSION

This case highlights the successful management of SLE with severe thrombocytopenia in a high-risk pregnancy with DCDA twins. Through coordinated multidisciplinary care, including judicious use of immunosuppressants, corticosteroids, IVIG, and proactive obstetric management, both maternal and fetal outcomes were optimized. This case underscores the importance of early diagnosis and tailored treatment strategies in managing complex autoimmune conditions during pregnancy.

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