

Neonatal Outcomes in Pregnant Women Complicated with Systemic Lupus Erythematosus

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Abstract

Background: Systemic lupus erythematosus (SLE) is a chronic autoimmune multi-system disorder with a propensity to affect women of childbearing age. Optimization of disease control preconceptionally is paramount with six months of disease quiescence recommended.

Objective: The study's main goal was finding out the neonatal and maternal outcomes of pregnancies having SLE.

Methods: A prospective study was conducted at the Duhok Obstetrics and Gynaecology Teaching Hospital and the Kurdistan Private Hospital in Iraqi Kurdistan between October 2017 and October 2023. There were twenty-six pregnant women with SLE in the study. Demographic information such as gestational age, gender, birth weight, Apgar scores and cutaneous involvement were among the data gathered from newborns.

The data collected from mothers with SLE included the baseline features and obstetrical outcomes such as maternal age, parity, onset of diagnosis, obstetrics outcome and mode of delivery.

Statistical Analysis: Data were collected, processed, and descriptive statistics were shown as numbers and percentages for nominal variables.

Results: Twenty-six pregnant women with SLE gave birth to 26 neonates between October 2017 and October 2023 these babies were included in the study. In 20 cases (76.9%) the gestational age was between (32 and 36) weeks. In 19 (73%) cases, the birth weight fell between 1,200 and 2,000 kg. The gender of the newborn baby was male in 16 (61.5%) of the cases. Six cases had an Apgar score at one minute of less than 7. Cutaneous involvement was only in 2 cases (7.6%). The SLE patients' mothers ranged in age from 24 to 34 years old. There were 14 (53.8%) multigravida cases and 12 (46%) primigravida cases. Higher problems were linked to pregnancies among mothers with SLE, including preeclampsia in 14 cases (53.8%) and gestational diabetes in 4 cases (15.3%). In 18 (69.3%) of the instances, a caesarean birth occurred.

Conclusion: For a woman who has had SLE in the past, pregnancy counselling is required. Women with SLE have poorer obstetrical and newborn outcomes compared to the general population.

Keywords: Systemic Lupus Erythematosus; Maternal; Newborn; Outcome

Introduction

Pregnancy in women with systemic lupus erythematosus (SLE) when compared to pregnancies in healthy women, there is an increased risk to the mother and fetus in women with (SLE). When SLE has been quiescent for at least six months before becoming pregnant, the prognosis is optimal for both the mother and the unborn child. There are difficulties in differentiating between pregnancy-related physiological changes and disease-related symptoms when there are disease flare-ups during SLE pregnancy. Therefore, to maximise the results for both the mother and the fetus, a multidisciplinary strategy involving close medical, obstetric, and neonatal monitoring is required. For woman with SLE, the condition should ideally be stable for six months before they try to conceive. Adverse maternal and obstetrical outcomes are strongly predicted by active SLE at the time of conception [1-3].

The largest observational study, including 385 pregnant lupus patients with inactive or mild or moderate disease at conception, found 81 percent of subjects had uncomplicated pregnancies [4].

The most frequent obstetric problem among women with SLE is preterm birth, which occurs between 15 to 50 percent of the time. Women with lupus nephritis or severe disease activity have a higher prevalence of preterm birth. The best indicators of an early delivery are the existence of active illness and lupus nephritis. Preterm birth rates are probably lower in women lacking these risk factors. In addition to disease activity, other factors contributing to higher rates of preterm births include superimposed preeclampsia, intrauterine growth restriction, and likely higher rates of abruption, and exposure to glucocorticoids. [1,5,6].

Miscarriage, stillbirth, growth restriction, neonatal lupus (NL) syndromes, and complications of prematurity are among the foetal complications that SLE patients may experience during pregnancy. Neonatal lupus (NL) is a passively transferred autoimmune disease that affects some babies born to mothers who have anti-Ro/SSA or anti-LA/SSB antibodies; those women may or may not be diagnosed with SLE or Sjögren's syndrome. Although haematologic and hepatic abnormalities are among the various indications of NL, cutaneous or cardiac manifestations are the most common. Congenital total heart block, the most dangerous consequence for a newborn, affects about 2% of infants born to primigravid women with anti-Ro/SSA antibodies. The chance of congenital total heart block rises to roughly 16 - 18% in women who become pregnant again after giving birth to a child with the condition or 10 - 15 percent in cases where a prior baby had cutaneous NL [7-10].

Contrary to anti-Ro60 or anti-La antibodies, data suggest that congenital heart block may occur more frequently in the presence of anti-Ro52 antibodies. Nevertheless, at this point, neonatal surveillance should not be affected by antibody type, and Ro antibody differentiation is not routinely carried out to guide obstetric care [11,12].

Close cooperation between an obstetrician skilled in treating high-risk mothers and a rheumatologist is necessary for the management of pregnant SLE patients. Periodic assessment for disease activity should occur throughout pregnancy and the postpartum period [13].

Maternal-fetal monitoring may need to occur more frequently in women who have risk factors or poor prognostic indicators. It is recommended that most women with SLE breastfeed. Different drugs may not always be safe during lactation [14,15].

Patients and Methods

A prospective study was conducted at the Duhok Obstetrics and Gynaecology Teaching Hospital and the Kurdistan Private Hospital in Iraqi Kurdistan between October 2017 and October 2023. The Committee for Scientific Research at the Duhok Obstetrics and Gynaecology Teaching Hospital approved this work. Written informed consent was supplied by each participant. In the study, 26 pregnant SLE women were included.

Demographic information such as gestational age, gender, birth weight, Apgar scores and cuteness involvement were among the data gathered from newborns.

The data collected from mothers with SLE included the baseline features and obstetrical outcomes such as maternal age, parity, onset of diagnosis, obstetrics outcome, mode of delivery and maternal mortality.

Statistical analysis

Data were collected, processed, and descriptive statistics were shown as numbers and percentages for nominal variables (%).

Results

Twenty-six pregnant women with SLE gave birth to 26 neonates between October 2017 and October 2023 these babies were included in the study.

Table 1 summarises the newborn outcomes for pregnant women with SLE. Twenty-six newborns were born. In 20 cases (76.9%) the gestational age was between (32 and 36) weeks, but in 6 cases (23.1%), it was between 36.6 and 37 weeks. In 19 (73%) cases, the birth weight fell between 1,200 and 2,000 kg, whereas in 7 (26.9%) cases, it fell between 2,100 - 2,200 kg.

Neonatal Characteristics	Values
Gestational age	
• (32- 36) weeks	20 (76.9%)
• (36.6-37) weeks	6 (23.1%)
Birth weight	
• (1,200-2,00) kg	19 (73%)
• (2,100-2,200) kg	7 (26.9%)
Gender	
• Male	16 (61.5%)
• Female	10 (38%)
Apgar score at 1 minute < 7	6 (23%)
Cutaneous involvement	2 (7.6%)

Table 1: The newborn outcomes for pregnant women who had SLE (n = 26).
Numbers representing nominal variables (percent).

The gender of the newborn baby was male in 16 (61.5%) of the cases, and in ten (38%) cases, it was female. Six cases had an Apgar score at one minute of less than 7 (23%). Cutaneous involvement was only in 2 cases (7.6%).

Table 2 summarises the baseline features and obstetrical outcomes of SLE pregnant women. The maternal age ranged from 24 to 34 years old. There were 14 (53.8%) multigravida cases and 12 (46%) primigravida cases.

Maternal Characteristics	Values
Maternal age (years)	(24-34)
Parity	
• Primigravida	12 (46%)
• Multigravida	14 (53.8%)
Onset of diagnosis	
• Before pregnancy	20 (76,9%)
• During pregnancy	6 (23%)
Obstetrics outcome	
• Gestational diabetes	4 (15.3%)
• Pre-eclampsia	14 (53.8%)
Mode of delivery	
• Vaginal delivery	8 (30.7%)
• Caesarean delivery	18 (69,2%)
Maternal death	0(0%)

Table 2: The baseline features and obstetrical outcomes of SLE pregnant women (n = 26).

In 20 cases (76.9%), SLE was identified before pregnancy, while in 6 cases (23%) it was identified during pregnancy.

Higher problems were linked to pregnancies among mothers with SLE, including preeclampsia in 14 cases (53.8%) and gestational diabetes in 4 cases (15.3%).

In 18 (69.3%) of the instances, a caesarean birth occurred, and in 8 (30.7%) of the cases, a vaginal delivery. There were no documented incidents of maternal deaths.

Discussion

To treat SLE during pregnancy, a multidisciplinary team comprising an obstetrician, clinical haematologist, anaesthetist, and neonatologist must collaborate in tandem.

Poor neonatal outcomes, such as preterm birth and low birth weight (LBW) babies, were found in our study among mothers with SLE. Our results align with prior research indicating that preterm births and low birth weight (LBW) are the primary neonatal morbidities among patients with systemic lupus erythematosus (SLE) [16,17]. Similarly, additional studies have shown that in 10 - 30% of cases, fetal development restriction complicates pregnancies for women with SLE, resulting in small for gestational age newborns [18].

The incidence of preterm labour in our study was 76.9%, significantly greater than that of one study [19], which found that the incidence of preterm was 13%. Other studies reported a wide range in preterm incidence between 17% and 54% [20,21].

In our study, the clinical manifestations of infants born with neonatal SLE cutaneous (7.5%), which is different to what is commonly described in the literature with the occurrence of cutaneous, cardiac, hepatobiliary, and hematologic manifestation in 70%, 65%, 53%, and 45%, respectively [22].

In the current study, preeclampsia complicated 14 pregnancies. Other retrospective investigations found that preeclampsia incidence ranged from 3% to 26% [23].

Our study's caesarean delivery rate was 69.3%. While other research has found a greater rate of caesarean sections, SLE is not a sign that a caesarean section is necessary; instead, the delivery technique should be chosen in accordance with the most appropriate midwifery indications [24]. A limitation of the research is small sample size.

Conclusion

For a woman who has had SLE in the past, pregnancy counselling is required. Women with SLE have poorer obstetrical and newborn outcomes compared to the general population.

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Ethics Approval and Consent to Participate

The ethical approval from the local ethics and scientific committee was obtained. The written informed consent of all the participants was obtained.

Competing Interests

There are no conflicts of interest to declare.

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