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Case Series

Overcoming challenges into miraculous motherhood: successful pregnancy outcomes in patients with SLE: A case series

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ABSTRACT

Systemic lupus erythematosus is a multisystem autoimmune disorder associated with multiple positive antibodies. Reproductive age group women have been found to develop SLE more commonly so than males, and pregnancy is associated with an increased rate of flare ups. The rate of pregnancy loss has decreased from 43% to 17% in recent years due to optimization of treatment and management during pre-pregnancy period. Recent studies have reported that both maternal and foetal outcome are favourable if SLE has been quiescent for at least 6 months prior to pregnancy. The effects of SLE over pregnancy and impact of pregnancy over SLE patients can be managed by optimization of pre-pregnancy treatment and management in antenatal period and follow-up. A multi-disciplinary team approach by an obstetrician, medical specialist and paediatrician for a successful management. Management of SLE to be continued in post-partum period and risk of flares and thrombotic events can be avoided by optimization of treatment in post-partum period till 6 weeks after delivery. Comprehensive maternal and new-born care has improved survival and quality of life outcomes in pregnant patients with SLE. Here, we present a series of three cases of SLE in pregnancy that had successful obstetric outcomes with an interdisciplinary management plan.

1. Introduction

Systemic lupus erythematosus (SLE) is a multisystem, auto immune connective tissue disease that commonly affects women of reproductive age and may coexist with pregnancy. The autoantibodies and immune complexes lead to damage of various organs and tissues. The peak incidence of SLE is between the age of 15 and 40 years with estimated female to male incidence of 10:1.[1] Pregnant woman with SLE have increased risk of spontaneous abortion, preterm delivery, intrauterine growth retardation, pre-eclampsia, neonatal lupus, stillbirth and intrauterine foetal death. Furthermore, SLE can cause Flares during pregnancy and its more common in people who had previous history of flares. The rate of pregnancy loss has decreased from 43% to 17% in recent years due to optimization of treatment and management during pre-pregnancy period.[2] Recent studies have reported that both maternal and foetal outcome are favourable if SLE has been quiescent for at least 6 months prior to pregnancy. Here we present a case series on successful management of antenatal patients with SLE, associated with good maternal and foetal outcomes.

2. Case 1

A G2P1L1 female, at 8 weeks and 5 days of gestation, and a known case of SLE was on treatment since 2019. She was ANA and anti ds-DNA positive, and was on hydroxychloroquine 200 mg once daily, aspirin 150 mg once daily since 2019. She was also a known case of hypothyroidism and was on tablet thyronorm 75 micrograms once daily since 2019. On her routine antenatal

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check-up, all investigations were found to be within normal limits including her interval growth scan and foetal doppler. She only had history of anaemia at 23 weeks for which 3 doses of iron sucrose were given. She was admitted at 37 weeks and 5 days for safe confinement. At 38 weeks, the patient was taken up for emergency LSCS owing to tenderness in the previous LSCS scar. The labour was uneventful and she delivered an alive 2.9 Kg baby. Post-operative hydrocortisone 100 mg 4 doses intravenously was given every 6 hours on the day of the surgery, along with tablet prednisolone 5 mg OD and hydroxychloroquine 200 mg and enoxaparin injection 0.6 ml subcutaneously, once daily. Both the baby and the mother were well, and all investigations were normal at the end of her stay.

3. Case 2

A 26 year old G2A1 with history of spontaneous abortion at 40 days of amenorrhoea was a known case of SLE. She was ANA, ds-DNA, KuSSA, anti-Rib P protein positive, on treatment with prednisolone 5 mg, azathioprine 50 mg, aspirin 150 mg and hydroxychloroquine 200 mg once daily. She was also on tablet thyronorm 50 micrograms, owing to hypothyroidism. Antenatal blood workup and scans were found to be within normal limits. At 30 weeks of gestation, she had grade 4 lupus nephritis following which, she was started on low molecular weight heparin 0.6 ml subcutaneously, once daily. At 38 weeks, she came with complaint of 8 episodes of loose stools and was admitted for safe confinement. Patient was taken up for emergency LSCS in view of CPD in labour and delivered a healthy boy of 2.860 kg. The post-operative period was uneventful. Four doses of injection hydrocortisone 50 mg were given on the day of surgery. She was started on prednisolone tablet 5 mg, tab. HCQ 200 mg, once daily after delivery, along with injection enoxaparin 0.6ml s/c od restarted after 12hrs for 6 days. Follow-up coagulation profiles and all routine investigations continued to show normal results. Both mother and baby were normal at the time of discharge.

4. Case 3

A G5P2L1A2 with spontaneous conception was a known case of SLE with grade-4 lupus nephritis and was positive for ANA, ds-DNA, Ku. SSA, anti-rib protein. She was on hydroxychloroquine, azathioprine, and prednisolone, and was on regular follow-up at OBG department saveetha medical college and hospitals. Patient had a history of MTP done at 2 months of amenorrhea as she was on T.MMF. Dilatation and curettage was done in 2019 for the same. The subsequent pregnancy was a preterm LSCS at 6 months and baby is currently not alive. Patient was started on Inj. LMWH 0.6 ml subcutaneously, aspirin 150 mg, hydroxychloroquine 200 mg, azathioprine and prednisolone 5 mg once daily each. Dating scan showed monochorionic-diamniotic twins. Twin A was at 9 weeks 2 days, while twin B- 9 weeks 4 days. All routine investigations were done and found to be within normal limits. Anomaly scan was also done and it showed absent foetal cardiac activity in twin-B. Subsequent growth scan and foetal doppler found to be normal for twin –A. Patient was taken up for elective LSCS at 37 weeks and Inj. enoxaparin was stopped 24 hours before surgery, tab. ecospirin stopped 72hrs before surgery. She delivered a healthy boy baby, of 2.234 kg. Four doses of injection 50 mg were given 6^{th} hourly on her postoperative day. Prednisolone 5 mg and hydroxychloroquine 200 mg once daily each, continued after surgery as well. Injection enoxaparin 0.6ml s/c was restarted after 12 hrs and given for 6 days, once daily. All routine investigations and coagulation profile found to be within normal limits, for both mother and child.

5. Discussion

Systemic lupus erythematosus is an autoimmune disease characterised my multisystem involvement, with multiple phenotypic variations. Several genetic, environmental and endocrine factors play a role in the etiopathogenesis of SLE. The risk of developing SLE is more in females than males, possibly due to the contribution by female hormones towards the pathogenesis.[3]

Estrogen has been known to induce the proliferation and activity of CD8+ and CD4+ T cells, along with an intensified release of cytokines. Through this, and multiple other mechanisms, estrogen and prolactin can promote autoimmunity. This ideology has been strengthened by the fact that SLE patients on hormone replacement or oral contraceptives often experience flare ups.[4,5]

Pregnancy is also associated with multiple morbidities, especially with an increased number of flares. SLE has also been historically associated with a higher number of pregnancy related adverse outcomes. SLE associated with complications like nephritis are associated with higher maternal and foetal complications. Of all neonatal complications, foetal loss, still-birth and neonatal lupus are the most common adverse events. Lupus pregnancies are meant to be closely monitored and stringently treated, owing to their high-risk status. Pre, intra and postpartum care should include a comprehensive plan, and expert guidance from immunology, OBGyn and nephrology departments. Co-existent autoimmune disorders like APLAs should be ruled out, as they are associated with increased maternal and foetal mortality.[6,7]

Hydroxychloroquine is central to the management of SLE in non-pregnant women as well as in pregnancy. It has been found to be safe in pregnancy and should be continued throughout the course. Similarly, drugs like sulfasalazine, aspirin, azathioprine and tacrolimus can also be continued throughout pregnancy. On the other hand, cyclophosphamide, mycophenolate mofetil and

methotrexate need to be avoided at any cost during pregnancy, and breastfeeding. Adjuvant drugs to treat pain and other symptoms may be added as needed.[8–10]

The predictors for bad maternal and foetal outcome are SLE activity at pregnancy onset, severity of renal disease, the presence of hypertension or lupus anticoagulant. Active lupus at the time of conception is associated with higher risk of disease flares during pregnancy and rate of flares during pregnancy or post-partum varies between 15% and 60%. Frequent antenatal visits every 2 weeks in first and second trimester and weekly in third trimester should be advised. Strict monitoring aimed at SLE flares, pre-eclampsia and IUGR should be continued throughout the pregnancy. Presence of anti-RO/SS-A and anti-LA/SS-B antibodies can cross placenta and damage conducting system and myometrium and can result in complete heart block and endocardial fibroelastosis in foetus. Neonatal lupus occur in about less than 5% of all women with SLE, Lupus dermatitis is most common feature seen in face or scalp. lesion appear in first few days of life and may resolve after 6 months. Neonatal lupus is rare and may result in auto immune haemolytic anaemia, leukopenia, hepato-splenomegaly. With all these treatment modalities, the mortality and morbidity associated with pregnancy and coexistent SLE have significantly reduced in the recent years, as we have noted in a series of patients that visited our department.[2,4]

6. Conclusion

A thorough and detailed discussion with couples regarding the optimal time of conception, risk of disease flares, possible maternal and foetal complications during pregnancy should be done. The effects of SLE over pregnancy and impact of pregnancy over SLE patients can be managed by optimization of pre-pregnancy treatment and management in antenatal period and follow-up. A multi-disciplinary team approach by an obstetrician, medical specialist and paediatrician for a successful management. Management of SLE to be continued in post-partum period and risk of flares and thrombotic events can be avoided by optimization of treatment in post-partum period till 6weeks after delivery. Monitoring new-born with haematological parameters and congenital anomalies should be ruled out after birth. Needless to say, the advent of multidisciplinary approaches, better treatment recommendations and monitoring tools, SLE in pregnancy has become easy to manage and better outcomes.

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8. Conflict of Interest

None.

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