A SUCCESSFUL MANAGEMENT OF PREGNANCY WITH LUPUS NEPHRITIS

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ABSTRACT

SLE is a multiorgan autoimmune disease that affects women of childbearing age. The incidence and prevalence of SLE in pregnancy are 1.4-21.9 and 7.4-159.4 per 100,000 people, respectively.¹ It is first diagnosed during pregnancy in 10-30% of the cases. Women with lupus nephritis have a good pregnancy outcome if the disease remains in remission.² Active nephritis is associated with higher incidence of maternal complications compared with women without nephritis.³ Foetal death with active maternal nephritis also increased than in those with quiescent nephritis. Renal involvement in SLE may either be in the form of active lupus nephritis at the time of conception or a new-onset LN or a lupus flare, all have potential maternal, perinatal morbidity and mortality. Here a case of pregnancy with active lupus nephritis of new onset had a good maternal and foetal outcome is reported.

KEYWORDS

Lupus nephritis, Systemic Lupus Erythematosus, Proteinuria, IUGR.

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INTRODUCTION

26 years old primi with 33 weeks gestation presented to our OPD with a history of swelling of both legs of 2 months and skin rashes over the face, abdomen, both legs, breasts, and skin over the back of 15 days duration. There was no history of headache, vomiting, or decreased urine output. She was booked at a private hospital and at 20 weeks all routine investigations were done including GCT was within normal limits. Target USG was done at 22 weeks and 6 days and congenital anomalies ruled out. She was a known case of hypothyroidism on regular treatment. TSH in first trimester was 6.7 and was put on T. Thyroxine 100 microgram. At 24 weeks, she developed swelling of both legs and skin rashes and at 32 weeks skin lesions were erythematous with crusting and scaling and were not itchy started in the breasts, anterior abdominal wall, anterior chest wall, both legs, and lastly involved the face. It was in the malar region over the face. History of fever, insect bite, and recent drug intake were ruled out. There was no history of joint pain. There was no past history suggestive of any connective tissue disorder. All relevant investigations done and preeclampsia ruled out.

The above-mentioned presenting complaints of the patient were suspicious of connective tissue disorder. A thorough clinical examination and relevant investigation were done. The diagnosis of active lupus nephritis of new onset was made as per American College of Rheumatology criteria.

On Examination

Pt. was anaemic, Hb bilateral, pedal oedema, leg oedema +, Erythematous rashes seen over the legs, breasts, and skin over the abdominal wall with scaling and crusting malar rash +, oral ulcers over the palate seen, which were painless. BP 120/70 mmHg, urine albumin 3+, P/A Ut 28-30 wks. size, FH 148/mt.

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Fig. 1

Fig. 2

Fig. 3

Investigations

Investigations showed, Anaemia, with normal platelet count, antinuclear antibody +++++, Anti double stranded DNA-positive, Nephrotic range of proteinuria-24 hours urine proteins - 4,688 mg/24 hrs., hypocomplementaemia C₄ <5.9 mg/dL (N-15-50) C₃ 30.1 mg/dL (N-84-168), Sr. creatinine 0.6 mg/dL, LFT: Total bilirubin 0.5 mg/dL, Total proteins 6.0 g/dL, Albumin 2.5 g/dL, Globulin 3.5 g/dL, A/G ratio 0.7. Normal coagulation profile, VDRL-Non-reactive, Echo-Normal study, admission USG done showed single live foetus with good fetal

heart. Doppler study - Normal with features s/o mild IUGR. Anticardiolipin antibodies - Negative. Urine routine: Albumin +++, RBC-Nil, Pus cells: plenty, Casts: nil. Peripheral smear showed microcytic hypochromic anaemia with neutrophilia, HbA1c 5.1, Sr. fibrinogen 364 mg/dL, Sr. uric acid 5.1, ESR 78 mm/hr. TSH-more than 100 micro IU/mL. Lipid profile: Total cholesterol - 287 mg/dL, HDL cholesterol - 28 mg/dL, LDL cholesterol - 163 mg/dL, TGL - 481 mg/dL.

Management with Outcome

In concordance with nephrologist patient was started on steroids (T. prednisolone 30 mg b.d.), T. Lasix 40 mg 1-1-0 and advised termination of pregnancy if foetus has attained maturity. Dermatologist suggested topical steroid application. Pt. was put on T. hydroxychloroquine and calcium as per rheumatologist opinion. As the patient did not develop hypertension and there was no evidence of foetal compromise and not attained maturity, pregnancy was allowed to progress with careful foetal surveillance. Patient was monitored with repeated investigations and any worsening of proteinuria and renal function looked for.

Repeat renal function test done at 37 weeks showed blood urea 60 mg/dL, sr. creatinine 1.2 mg/dL. USG with Doppler study of UA, MCA arteries at 37 weeks showed SLIUG 33 weeks GA with oligohydramnios, and Doppler study of CPR Reversal in MCA. In view of IUGR with oligohydramnios with CPR reversal with worsening of renal functions, pregnancy was terminated by emergency LSCS and delivered an alive IUGR, LBW GIRL baby of 2.1 kg with good APGAR.

Even though airway narrowing was anticipated intraoperative period was uneventful. Baby had no skin rashes and was followed up with echo and it was normal with no congenital heart block. Postoperative period was uneventful. Pt. was put on immunosuppressives cyclophosphamide one month after delivery and now she in remission phase of SLE with decreased proteinuric range with one year old well baby.

DISCUSSION

Criteria of the American Rheumatism Association for Systemic Lupus Erythematosus.

Criteria	Comments
Malar rash	Malar erythema
Discoid rash	Erythematous patches, scaling, follicular plugging.
Photo sensitivity	Exposure to UV light causes rash.
Oral ulcers	Usually painless oral ulcers and Nasopharyngeal Ulcers.
Arthritis	Non erosive involving 2 or more peripheral joints with tenderness swelling, or effusion.
Serositis	Pleuritis, or pericarditis.
Renal	Proteinuria greater than 0.5 g/day or >3+ dipstick, or cellular casts.
Neurological	Seizures or psychosis without other Cause.
Haematological	Hemolytic anaemia, leukopenia, or Thrombocytopenia.
Autoantibodies	Anti-ds DNA or anti-sm antibodies, or false positive VDRL, abnormal level of IgM or IgG anticardiolipin antibodies, or lupus anti-coagulant.
ANA	Abnormally elevated ANA titers.

If four or more criteria are present at any time during disease course, SLE can be diagnosed with 75% specificity and 95% sensitivity.

During pregnancy lupus improves in third of women, remains unchanged in a third and worsens in the remaining. It is certain that lupus can be life threatening to both mother and the baby. One third of the women with lupus nephritis experience SLE exacerbation during pregnancy and 20% experience renal deterioration. Active renal involvement is defined as the presence of active urine sediment and/or proteinuria >0.5 g/dL with or without an elevation in sr. creatinine¹ by the American College of Rheumatology criteria. Up to 75% of SLE patients have clinically evident renal disease in pregnancy. The risk of developing preeclampsia is increased nearly 6 fold in women with SLE compared to controlled population. Other obstetric complications associated with SLE are increased foetal wastages, stillbirths, preterm delivery, and IUGR.

The reasons for adverse foetal consequences include decidual vasculopathy with placental infarction and decreased perfusion. Active nephritis is associated with significantly higher incidence of maternal complications. Low levels of compliments are more likely associated with active disease. Urine is tested frequently to detect new-onset or worsening of proteinuria. Persisting overt proteinuria is an ominous sign even more so if accompanied by nephrotic syndrome or abnormal sr. creatinine levels. The foetus should be closely observed for adverse effects. Anti-SSA (Ro) and anti-SSB (La) may damage the foetal heart and conduction system causing neonatal death. Congenital heart block results from diffuse myocarditis and fibrosis in the region between the AV node and bundle of His.

The main stay of treatment for SLE is corticosteroids. Prednisolone and methylprednisolone have minimal placental transfer and are the drugs of choice in pregnancy. The risk of developing hypertension and glucose intolerance during pregnancy is considerable with higher doses and calcium must be supplemented to compensate for bone marrow loss with chronic use of steroids. High dose of steroids during pregnancy is also associated with an increased risk of PROM, preterm labour, and IUGR. Anti-malarials such as hydroxychloroquine is useful for skin and joint symptoms. Levy and colleagues⁴ assigned 20 pregnant women to hydroxychloroquine and reported improvements in SLEPDAI scores with drug use. Discontinuation of hydroxychloroquine during pregnancy has been documented to increase the risk of lupus flare.

CONCLUSION

In General, Pregnancy outcome is Best if.

1. Lupus activity has been quiescent for at least 6 months before conception.
2. There is no active renal involvement manifest by proteinuria or renal dysfunction.
3. Superimposed preeclampsia does not develop.
4. There is no evidence of antiphospholipid antibody activity.

Our case was diagnosed as SLE in third trimester of pregnancy as it has six criterias of the American Rheumatism Association for SLE (malar rash, discoid rash, oral ulcers, renal involvement, autoantibodies, and ANA in elevated titres). Patient was in an active phase of nephritis with persisting

nephrotic range of proteinuria, severe anaemia, and with severe skin lesions. In spite of the severity of the disease, the best maternal perinatal outcomes were obtained with active surveillance of both mother and the foetus.

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