Case Report on Pregnancy with Lupus Nephritis Type IV with Hypothyroidism – A Clinical Vignette

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INTRODUCTION

Lupus is a multisystem disease affecting almost all systems including the immune system of our body. Its aetiology is not known. Lupus involving kidneys causes lupus nephritis and adds more complications in the multisystem disease.

Lupus or systemic lupus erythematosus (SLE) is a multifactorial chronic disease involving multiple systems of the body. It is autoimmune[1] in nature. There is increase in maternal and fetal risk of mortality and morbidity in lupus with pregnancy.

The rate of pregnancy loss is 1.7 %[2] in active SLE during initial first trimester and the most common adverse morbidity causing factor of fetomaternal side.[3] There can be an increase in fetal mortality and morbidity associated with lupus nephritis.[4,5] There is increased risk of intrauterine growth restriction (IUGR) / neonatal lupus / gestational diabetes mellitus / osteoporosis / HELLP syndrome / preeclampsia. Associated thyroid disorder is increased with preterm pregnancy.[6]

PRESENTATION OF CASE

A 25-year-old primigravida G_1P_{O+O} with an intrauterine singleton pregnancy of 37 weeks admitted in triage with lower abdomen pain with controlled lupus nephritis type IV for 6 yrs. and hypothyroidism (with medication controlled) in the Department of Obstetrics and Gynaecology of Midnapore Medical College and Hospital, India. She was on azathioprine 50 mg, prednisolone 5 mg, hydroxychloroquine 300 mg, nifedipine 20 mg once daily. Her predelivery anti dsDNA level was 8.7.

She continued this medication throughout the pregnancy. On admission, she was having normal temperature, blood pressure - 170 / 110 mm of Hg, pulse – 84 / min, respiration rate – 18 / m. per abdomen-fundal height - 36 weeks of gravid uterus, fetal heart sounds (FHS) - 144 bpm, regular, cephalic. Per vaginal examination, os-closed, cervix-thick, cervical effacement – 10 %, pelvis was adequate by 1st trimester ultrasonography and pelvic examination baby was 36 weeks maturity and blood Hb level was - 10 gm %.

Patient was assessed and Bishop score was favourable, and induction of labor was done with tablet misoprostol PGE_1 25 mcg. Labor was uneventful and normal vaginal delivery was done, baby girl weighing 1.65 Kg, cried immediately after birth, with Apgar at 1 minute-8, Apgar at 5 minute-9. Injection oxytocin 10 U is given in intravenous fluids and active management of third stage of labor was done. Post-delivery vitals of mother and baby were normal.

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INITIAL INVESTIGATION

Urine dipstick for protein +++, thyroid stimulating hormone (TSH) - 15.2, FT4 - 1.08, prothrombin time (PT) - 14.6 sec (control - 14 sec) international normalised ratio (INR) - 1.06, activated partial thromboplastin time (APTT) - 33.0 sec (control - 31.0 sec). urea - 1.2, bilirubin (total) - 0.48, serum glutamic pyruvic transaminase (SGPT) - 16, serum glutamic oxaloacetic transaminase (SGOT) - 30, Hb % - 9.5 gm %, platelet - 1.41 lakh / cu mm, total leukocyte count (TLC) - 6700 / cu mm, neutrophil - 76 %, lymphocyte - 17.5 %.

Patient was assessed and Bishop score was favourable, and induction of labour was done with tablet misoprostol PGE_1 25 mcg. thyronorm 100 mc and anti SLE immunomodulators were continued. Inj. ranitidine 150 mg intramuscular BD, inj. ceftriaxone 1 gm intravenous BD (APST), intravenous fluid Ringer lactate at 6 hourly, injection labetalol 20 mg intravenous stat given. Strict monitoring of blood pressure, fetal heart rate and progress of labour was monitored. Labour was uneventful and normal vaginal delivery was done. Baby girl weighing 1.65 kg, cried immediately after birth at 11.52 am, with Apgar at 1 minute-8, Apgar at 5 minute-9. Injection oxytocin 10 U is given in intravenous fluids and active management of third stage of labour was done. Post-delivery vitals of mother were normal, and no postpartum haemorrhage (PPH) occurred.

Follow up investigation on post-natal day 1, Hb - 9.4 gm %, TLC - 6900 / cu mm. blood urea - 32, creatinine - 1.54, bilirubin (total) - 0.46, bilirubin (direct) - 0.16, SGPT - 46, SGOT - 40, serum albumin - 4.0, Na^+ - 137.9, K^+ 4.4, electrocardiogram (ECG) 12 leads-within normal level. Patient was observed for post-natal 24 hours, exclusive breast feeding was initiated at the earliest. Patient was referred to Department of Nephrology and Rheumatology on post-partum day 1 for multi system approach and better management.

DISCUSSION

SLE is an autoimmune disorder having multisystem involvement. Important part of pregnancy with lupus nephritis is preconception counseling regarding the drug teratogenecity[7,8] and potential risk to the baby with respect to the disease per se to the baby, which was done in the case and drug was modified. Patient underwent drug modification and hydroxychloroquine was started and it decreased the chances of neonatal lupus, especially with hydroxychloroquine[9,10] and azathioprine as they are also one of the few immunosuppressors with safety profile in pregnancy.[11] Other drugs must be discontinued 3 months before conception. Calcineurin[12] inhibitors are also reported to increase the fetal risk. Anti RO and anti-LA needs to be rechecked and evaluated. Aspirin with heparin can decrease the chances of early trimester pregnancy or recurrent pregnancy loss. Low dose aspirin[13,14] in SLE is not contraindicated for pregnancy, rather can be a potential savior in recurrent pregnancy loss, but surely needs close monitoring and follow-ups. Mok et al, reported that proteinuria is an important factor that causes fetal loss, our case also had proteinuria but she had a successful delivery and a healthy baby.[15] SLE is not a contraindication for pregnancy but the patients should be followed closely. Intra labour, patient can be given trial of labor if there is no indication from obstetrics point for emergency Caesarean section is felt, as was done in our case. With favorable Bishop score, labour was induced and augmented. Close monitoring was done and active management of 3rd stage of labor was done to prevent PPH.

CONCLUSIONS

Our patient had a positive outcome with healthy baby due to planned trial of labour and management by multisystem approach. Pregnancy in a female with lupus nephritis associated with hypothyroid disorder is a more challenging case scenario to treat and to have a healthy fetomaternal outcome with least possible maternal and fetal morbidity and mortality. Even preeclampsia can mimic such symptoms. Association of pregnancy with lupus nephritis and hypothyroidism is a rare clinical finding and having a successful normal delivery with normal fetomaternal outcome is rare.

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