Systemic Lupus Erythematous Pregnancy Planning and Disease Management during Pregnancy :A Case Report

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Introduction

Purpose: Systemic Lupus erythematous (SLE) is an autoimmune disease that can affect almost every organ system; it can range in severity and affects mainly women. SLE is the most common rheumatic autoimmune disease seen in pregnancy. Pregnancy can cause severe disease flare-ups, and the fetus is at risk for developing intrauterine growth restriction, congenital heart blocks, low birth weight, and intrauterine or neonatal death. therefore, pregnancy should be approached with planning and caution.

Case presentation

A 29-year-old-female presents to her Rheumatologist with questions regarding pregnancy planning. She was diagnosed with SLE at 18 years old and has since been managed on Benlysta subcutaneous injection 200mg/mL once a week and Hydroxychloroquine 200 mg twice a day.

Labs 9/6/24:

LAC (lupus anticoagulant)-

PTT-LA 29.2, dRWT- 32.2,

Lupus reflex interpretation: **No lupus anticoagulant was detected.**

aCL (anticardiolipin antibody)-

Anticardiolipin Ab, IgA, Qn: <9

Anticardiolipin Ab, IgM, Qn: <9

Anticardiolipin Ab, IgG, Qn: <9

anti-B2 GPI (anti-beta-2-glycoprotein)-

Beta-2-Glycoprotein I Ab, IgA: <9

Beta-2-Glycoprotein I Ab, IgG: <9

Beta-2-Glycoprotein I Ab, IgM: <9

Anti-dsDNA Ab Qn: 13 High

Complement C3, Serum: **77 Low**

Complement C4, Serum: **9, low**

Treatment/Management

-Hydroxychloroquine (HCQ) is an oral antimalarial drug that is used to prevent and treat malaria as well as SLE and other autoimmune conditions.[4] The effects HCQ has on SLE are the control of disease activity, decrease in serum markers, decrease in activity scores, prevention of disease flares, and sustained remission if used long-term.[8] it has also been shown to be an independent factor in reducing the rates of preeclampsia, resulting in a higher birth weight and reduced3 rates of preterm delivery The current recommendation by the American College of Rheumatology is for patients with SLE who are pregnant to continue taking HCQ or to begin taking it if not already.

-Low-dose Aspirin 81mg/day prophylaxis for preeclampsia should begin at 12- 18 weeks gestation and continued until delivery. Up to 30% of all lupus pregnancies may have a diagnosis of preeclampsia. Aspirin is a safe and effective prophylactic treatment for the prevention of preeclampsia. The USPSTF guideline criteria for the prevention of preeclampsia is low-dose 81mg/day prophylaxis for women at high risk. A large analysis of randomized control trials involving 40,249 women and their babies was done to identify the effects of low-dose aspirin on pregnancy outcomes. It was shown that aspirin reduced the risk of preeclampsia by 18%, and the number of fetal deaths at or near birth was reduced by 15%

-Benlysta (Belimumab) is a biologic therapy for treating lupus and lupus nephritis, that was the first FDA approved treatment in 2011. In one study there were 48 pregnancies, with 46 ending in a live birth, ten were associated with a birth defect. Due to the fact this is a relatively new treatment, and there is lack of significant evidence in safety, pregnancy outcomes and the possibility of birth defects, the ACOG recommends continuing treatment with Belimumab while trying to conceive but discontinuing once the mother is pregnant.

Treatment/management

-Umbilical artery doppler- There were encouraging results in a systemic review of five articles evaluating the use of Doppler for predicting poor fetal outcomes in SLE pregnancies. Doppler abnormalities in SLE pregnancies are indicative of poor fetal outcomes, including increased resistive indices, notching of the arteries, and reversal of end-diastolic flow.[6] Monitoring these pregnancies has improved fetal outcomes. Thus, The Journal of Rheumatology advises that women with SLE should be considered for referral to Maternal Fetal Medicine for fetal monitoring with umbilical artery Doppler studies.

Labs:

The American College of Rheumatology recommends testing for aPL (antiphospholipid antibodies), LAC (lupus anticoagulant), aCL (anticardiolipin antibody), and anti-B2 GPI (anti-beta-2-glycoprotein) in women once before pregnancy. if planning on trying to conceive, or once in early pregnancy.

Other labs that should be monitored during pregnancy at least once a trimester are a complete blood count, differential cell count, urinalysis, and urinary protein: creatine ratio, as well as anti-DNA, C3, or C4 levels, as these may indicate SLE flare or preeclampsia.

Materials/methods

Literature reviews were conducted from multiple sources and databases, including I.D. Weeks Library, Google Scholar, and Google. Search criteria include “Systemic Lupus Erythematous, Belimumab, Aspirin, Hydroxychloroquine, umbilical artery doppler, treatment recommendations”.

Conclusions

This patient had negative anti-phospholipid antibody testing and it was recommended to continue her Hydroxychloroquine 200mg twice a day before and during pregnancy. She should continue her Benlysta 200mg/mL injection once a week until she becomes pregnant, at that time, she should discontinue her Benlysta. In early pregnancy it is recommended she have aPL labs, CBC, differential cell count, urinalysis, urinary protein: creatine ration, anti-DNA, C3 or C4 levels. Low-dose Aspirin should begin around 12-18 weeks, unless she has a positive aPL test, in that case it would begin immediately. Other treatment will be tailored to the results of lab testing.

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