Case Report

Case report on systemic lupus erythmatosus in pregnancy

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Abstract

Background: Systemic Lupus erythmatosus is a autoimmune disease mostly affecting Women of child bearing age. SLE are at higher risk for exacerbations of the disease during pregnancy, spontaneous abortions, intrauterine foetal death, pre-eclampsia and eclampsia, preterm delivery and intrauterine growth retardation. **Objective:** pregnancy is a challenge for lupus patients and their physicians. This case report is focused on the disease course, gestational outcome and management of patients with SLE during pregnancy. **Methods:** Here we describe the successful management of patient with SLE, registered at second trimester of pregnancy, with antinuclear antibody and antiphospholipid antibody positive, with intra uterine growth restriction with good maternal and fetal outcome. **Conclusion:** As the treatment of systemic lupus erythematosus (SLE) improves, and with better understanding of the disease more women with this disease are able to become pregnant. Pregnancy outcomes have improved dramatically over the last 40 years. However, fetal and maternal complications still exist. Careful planning of pregnancy coupled with multidisciplinary monitoring and treatment substantially decreases the risks for the mother and the infant.

Key Word: systemic lupus erythmatosus, pregnancy.

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INTRODUCTION

Lupus is a heterogeneneous autoimmune disease with a complex pathogenesis that result interaction between susceptibility genes and environmental factors that cause an abnormal immune response.[1] Almost 90 percent of cases of lupus are in women , and its prevalence in those of child bearing age is about 1 in 500.[1] Women with systemic lupus erythematosus are at increased risk for serious medical and pregnancy complications during pregnancy.[2] Women with SLE are at higher risk for exacerbations of the disease during pregnancy, spontaneous abortions, intrauterine foetal death, pre-eclampsia and eclampsia, preterm delivery and intrauterine growth retardation.[13] Historically, fetal and maternal well being of patients with SLE seemed to be compromised to the extent that the medical community recommended against pregnancy in SLE patients. It was difficult to assess whether superimposing pregnancy was detrimental as the clinical outcome of non-pregnant SLE patients was poor.[14,15] It seems that with better control of disease activity, pregnancy in SLE patients is no longer an absolute contraindication. However, fetal and maternal complications still exist. Careful planning of pregnancy coupled with multidisciplinary monitoring and treatment substantially decreases the risks for the mother and the infant.[16] As the treatment of systemic lupus erythematosus (SLE) improves, more women with this disease are able to become pregnant. Pregnancy outcomes have improved dramatically over the last 40 years, with the pregnancy loss rate falling from 43% in the 1960s to 17% by 2000.[1] (national study)over the past few decades, there has been a trend towards more favorable outcomes. (13).pregnancy is a challenge for lupus patients and their physicians. This case report is focused on the disease course, gestational outcome. and management of patients with SLE during pregnancy. also summarizes antenatal management of patient with SLE, timely obstetric management, and puerperal care, resulted in improved maternal and fetal outcome.

CASE REPORT

A 20 year old woman(G2 A1) with 20 weeks of gestation was refered as a diagnosed case of systemic vascular erythmatosus with secondary antiphospolipid andibody syndrome, for further management, she was registered at GMC latur at 20 weeks of gestation. She was having

complaints of rash over face, photosensitivity, for which she was investigated,was found to be positive for antinuclear antibody, anticardiolipin antibody, dsDNA, SNRNP antibody . there was no history suggestive of any systemic involvement. Her complete blood count (CBC), blood sugar, urine examination were normal. Patient reported to us in second trimester Liver and renal function tests (LFT, RFT), electrocardiograph (ECG) were further ordered to rule out any systemic involvement and were found to be normal. As per physician opinion She was on tab hydroxychloroquin 200 mg twice a day, tab aspirin 75 mg once a day tab omnacartil 10 mg twice aday. With continuation of this treatment , iron , folic acid, and calcium suppliment started, regular antenatal checkups continued serial ultrasound examinations with Doppler studies done for fetal wellbeing, To improve the foetal outcome, she was started also with low molecular weight heparin (LMWH) 2500 IU subcutaneously twice daily. She was being monitored by serial bleeding time (BT), clotting time. In third trimester, she was hospitalized, on clinical examination and ultrasound examination , patiend had intrauterine growth restriction.with serial monitoring, elective caserian section was planned after 37 completed weeks of gestation. Tab aspirin was withheld 72hours before surgery and Injection LMWH was withheld 24 h prior to surgery. Preoperative investigations revealed a normal BT, CT, APTT and PT, INR. In view of normal coagulation profile, regional anaesthesia was given.Subarachnoid neuraxial block was performed using 2 ml of 0.5% Bupivacaine (heavy) in lateral position with 25G Quincke needle under aseptic precautions. . Baby cried immediately after birth with normal APGAR score and no signs of neonatal lupus. Inj. oxytocin 20IU in 500 ml DNS was started. The surgery was uneventful with minimal blood loss. After full recovery patient was shifted to the ward and LMWH injections were restarted after 24 h. Baby's birth weight was 1.9 kg ,shifted to NICU. Baby screened for any congenital malformation,and deranged coagulation profile, found normal.

DISCUSSION

Systemic lupus erythematosus is a systemic autoimmune disease that primarily affects women in their reproductive age years. Pregnancy in systemic lupus erythematosus now has favorable outcomes for the majority of women.[7] As per A national study of the complications of lupus in pregnancy in august 2008-. Maternal mortality was 20-fold higher among women with systemic lupus erythematosus. The risks for thrombosis, infection, thrombocytopenia, and transfusion were each 3- to 7-fold higher for women with systemic lupus erythematosus. Lupus patients also had a higher risk for cesarean sections, preterm labor, and preeclampsia than other women. Women with systemic lupus erythematosus were more likely to have other medical conditions, including diabetes, hypertension, and thrombophilia, that are associated with adverse pregnancy outcomes.[2] Antibody to cardiolipin is common in patients with systemic lupus erythmatosus. cardiolipin is a part of antigen used in serological test in syphilis, and it is associated with the lupus anticoagulant.Because antibodies to phospholipid antigen , such as cardiolipin may have a crucial role in coagulation abnormalities,and may cross react with antibodies to DNA. In this study they concluded that antibodies to cardiolipin stongly predicts syndrome of foetal distress or death in patients with systemic lupus erythmatosus.[12] As in our case anticardiolipin antibodies were positive, and intrauterine growth restriction was present

Effect of pregnancy on the disease

Pregnancy is not uncommon in SLE patients, since the disease affects women of childbearing age and fertility is generally conserved, except when renal function is seriously compromised (creatinine clearance <50 ml/min), the disease is very active, or when amenorrhoea has been induced by cytotoxic therapy (cyclophosphamide)[7] One of the major risks for SLE mothers is the occurrence of a disease flare during pregnancy. As in this case patient had disease flare at 20 weeks of gestation. However, whether or not SLE tends to flare more during pregnancy is still an unresolved issue. Up to now seven prospective comparative studies using nonpregnant SLE patients as controls have been published, but they do not allow a definite answer. The risk of flare seems to depend on the level of maternal disease activity in the 6–12 months before conception. If SLE is active in that period, then the patient has a high risk of having a disease flare during pregnancy; if the disease is in remission then the risk is reduced.[3] Pregnancy should therefore be planned when SLE is in remission.[10] The second major risk of SLE relapse during pregnancy is glomerulonephritis.[11] The risk of flare is higher if glomerulonephritis is active at the time of conception, but it is high even when in remission. Two recent studies carried out on 102 pregnancies in 75 SLE patients who had had lupus nephritis before pregnancy but who were in remission at the time of conception, showed a proteinuric flare ranging between 45% and 50% of cases and a worsening of renal function in 17–21% of cases . Preeclampsia also increases proteinuria, making it hard to distinguish between pre-eclampsia and renal exacerbation. Apart from glomerulonephritis, SLE flares during pregnancy And in post-partum are generally mild or moderate, with a Predominance of cutaneous, articular and minor haematological manifestations

(thrombocytopenia is common in all pregnancies). However, severe exacerbations of the disease, characterized by major organ involvement, have been reported with a frequency varying between 5% and 46% in different studies. Maternal death may also occur, although nowadays only very rarely. The definition of SLE activity criteria in pregnancy requires
care. Some typical clinical manifestations of pregnancy can match some symptoms of the active disease: arthralgias, myalgias, erythema on the malar eminences and palms of the hand, hair loss, oedema of the face, hands and of the lower limbs, and carpal tunnel syndrome. Some laboratory parameters that are useful in evaluating SLE activity are modified during pregnancy: ESR increases and haemoglobin decreases due to haemodilution, while the serum levels of C3 and C4 increase due to increased liver synthesis induced by oestrogens. In SLE patients with inactive disease, C3 and C4 increase, as it occurs in pregnancies of healthy subjects (except in cases of congenital deficiency); however, when disease is active they decrease. Nevertheless, since the baseline values are higher, they can result within the normal range. Therefore, in a pregnant patient with SLE, the observation of C3 and/or C4 values within normal range cannot exclude the possibility that the disease is active. In some cases of toxaemia or other hepatic diseases of pregnancy, complement levels fall; hence, low complement levels do not always indicate disease activity[9] Identification of antinuclear antibodies is the best screening test , however, a positive test result is notspecific for lupus.[1] The persistent presence in plasma of medium to high levels of IgG and/or IgM class anticardiolipin antibodies (aCL) and/or the lupus anticoagulant (LAC) is associated with both “recurrent pregnancy loss” and venous and arterial thrombosis.1 This clinicoserological entity, first described the early in eighties in patients with systemic lupus erythematosus was termed the antiphospholipid syndrome.[11] In 1983, Lubbe *et al* showed that five out of six women with LAC and poor obstetric histories gave birth to live infants when they were treated during pregnancy with prednisone (40–60 mg daily) and low dose aspirin (75 mg daily). As in our case patient was treated with low dose aspirin which inhibit platelet thromboxane A2 synthesis and preventing thrombosis of the placental vasculature. However, corticosteroids used for prolonged periods in pregnancy have significant side effects, like diabetes, hypertension, osteoporosis, (pre-) eclampsia, and preterm delivery secondary to premature ruptured membranes, as shown by Cowchock *et al.*[22] Since 1992 heparin, combined with low dose aspirin, has replaced prednisone for treatment of pregnant aPL positive women.[11] A recent prospective study, in which aPL positive pregnant women with at least three spontaneous consecutive miscarriages were alternately assigned to low dose aspirin alone or aspirin plus subcutaneous heparin twice daily. Found 44% live births for women treated with aspirin alone and 80% for those treated with the combination. Treatment with heparin is started when there is a positive pregnancy test, or fetal heart activity. All prospective studies on the efficacy of heparin in aPL related pregnancies used unfractionated heparin,as in our case aspirin, corticosteroids and low molecular weight heparin was started to improve fetal outcome. A prospective study of pregnancies in women with SLE who were evaluated between 1987 and 2003, Women had a higher degree of lupus activity, as measured by the physician's estimate of lupus activity and the SLE Disease Activity Index, as well as an increased rate of flare, during pregnancy in those who stopped taking HCQ during pregnancy. Women who continued taking HCQ were maintained on a lower average dose of prednisone during pregnancy, in our case patient was continued with tertment with hydroxychoroquin throught pregnancy. The main factors contributing to the increased rate of growth restriction are hypertension corticosteroids, antiphospholipid antibodies and pre-eclampsia. Low complement levels also seem to correlate with IUGR, as in our patient was on corticosteroids, positive for antiphospholipid antibodies, and low complement level.

CONCLUSION

The multisystem nature of the, the severity of the organ involvement and the drugs used in treatment, accounts for a multidisciplinary approach for its diagnosis and successful management. Pregnancies in lupus patients must be closely watched and treated during all three trimesters to improve pregnancy outcomes. Low molecular weight heparin and aspirin used in lupus with pregnancy was found to be effective in improving maternal and fetal outcome. Counseling about conception to be planned while the lupus is inactive for a better outcome for mother and baby, and close monitoring of pregnant patients may positively impact on the outcome. As the treatment of systemic lupus erythematosus (SLE) improves, more women with this disease are able to become pregnant. Pregnancy outcomes have improved dramatically over the last 40 years.

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