SLE and Pregnancy

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There are over 50 cases of SLE reported per 100,000 people with the highest prevalence in Brazil (Tuoks, 2011). In the U.S., people of African, Hispanic and Asian ancestry have a higher incidence than those of European ancestry (Tuoks, 2011). Multidisciplinary management of the pregnant SLE patient has improved disease management and pregnancy outcomes dramatically over the last 20 years (Ateka, Barrutia & Khamashta, 2015). Many antibodies are present and measured in patients with SLE. Autoantibodies including antinuclear antibody (ANA), anti-double stranded (ds) DNA and anti-Smith have been found in 88% of SLE patients up to 9.4 years before the patient is ever diagnosed with SLE (Marks & Tullus, 2011). Anti-dsDNA antibodies are particularly important because they have a high specificity for disease activity (Marks & Tullus, 2011). Antiphospholipid antibodies are present in 30-40% of women with SLE (Tupper, Mathen, Crocker, & Bruce, 2013). The presence of these same antibodies after the pregnant SLE patient at greater risk for poor outcomes with approximately 30 developing thrombotic events and miscarriages (Ferenkeh, Koroma, 2012). Low dose aspirin and the low molecular weight heparan can significantly decrease complications resulting from antiphospholipid antibodies and increase the live birth rate tremendously (Ferenkeh, Koroma, 2012).

During pregnancy, the health of the fetus is dependent upon the health of the mother. An unhealthy mother can inhibit the ability of the pregnancy to fulfill the uterine-placental sufficiency caused by poor vascularization contributes to multiple pregnancy complications (Ostensen & Clowse, 2011). Endothelial dysfunction and cell damage leading to poor placental blood flow is the main cause of IUGR and possibly early pre-eclampsia (Ostensen & Clowse, 2011). The risk of thromboembolic events may be lowered by different severe routes in the SLE patient. The most significant predictor of preterm birth is a lupus flare during the course of the pregnancy (Ostensen & Clowse, 2011). Inflammation from infections, oral prednisone, and elevated anti-SSA and anti-SSB autoantibodies are also associated with preterm birth (Ostensen & Clowse, 2011). Other antibodies, such as antiphospholipid antibodies, are associated with versus and thus are particularly important in the management of the disease and provide patients with appropriate education and support to enable SLE patients to maintain wellbeing and lead active lives (Ferenkeh, Koroma, 2012).

SLE can also have an effect on the growing fetus in the form of neonatal lupus (Nl). Nl is mediated by maternal anti-Ro/SSA and anti-La/SSB antibodies which can cross the placenta affecting the fetus (Nalli et al., 2013). Only 1% of infants will develop Nl with the majority having cutaneous lesions that are photosensitive to direct sunlight (Johnson, 2016). However, congenital heart block (CHB) is the most severe form of Nl with a 30-50% perinatal death rate and most surviving children need in a permanent pacemaker (Ateka-Barrutia & Khamashta, 2013). Antibody testing is particularly important in the pregnant SLE patient at greater risk for poor outcomes with approximately 30 developing thrombotic events and miscarriages (Ferenkeh, Koroma, 2012). Low dose aspirin and the low molecular weight heparan can significantly decrease complications resulting from antiphospholipid antibodies and increase the live birth rate tremendously (Ferenkeh, Koroma, 2012). Treatment typically includes topical applications for skin rash, NSAIDS, corticosteroids, immunosuppressants, and antimalarial drugs (Ferenkeh, Koroma, 2012). Management is based on an assessment of the degree of organ involvement and the treatment regimen may change relative to inflammation and complications (Ferenkeh, Koroma, 2012).

Due to the various and vast effects SLE can have on the body, pregnancy represents an incredible challenge for healthcare providers. Prophylactic counseling is recommended for women with SLE hoping to become pregnant. It is encouraged for the woman to not get pregnant until the disease has been in remission for at least 5 months with at least one pregnancy following which produces better outcomes with the mother and infant (Nalli et al., 2013). A multidisciplinary approach including an obstetrician experienced with high risk pregnancies in collaboration with a rheumatologist familiar with SLE should be utilized for the management of the patient (Ferenkeh-Koroma, 2012). Screenings for antibodies such as the ANA, anti-Ro/SSa, anti-dsDNA, and ASAb should be done during the initial evaluation of the pregnant SLE patient. Anti-dsDNA and hypercoagulability also have been proven to be very helpful in determining pregnancy risks in a clinically active SLE (Clowse, Magder, & Petty, 2011). Most lupus flares during pregnancy occur during the first trimester and up to 10% may have flares between 2-6 weeks postpartum (Ferenkeh-Koroma, 2012). Treatment for SLE during pregnancy is critical and varies on a case by case basis. Multiple medications may be used, although some are contraindicated during pregnancy. Poor control of the disease during pregnancy may have damaging effects on the outcome for the mother and infant (Nalli et al., 2013). It is encouraging, though, that most women who become pregnant during remission can expect a normal pregnancy without any major complications (Ferenkeh-Koroma, 2012). Close monitoring and management of the pregnant SLE patient is imperative to ensure the best possible outcome for the mother and infant.

**Conclusion**

The exact etiopathogenesis of SLE is still unknown and there is no gold standard of treatment for the autoimmune disease. Female patients diagnosed with SLE in the past 25 years may have benefited from the increased awareness of the risks of pregnancy as the majority of SLE patients are women of childbearing age. Since powerful immunosuppressants and cytotoxic drugs are used for treatment of SLE, pregnancy presents a unique challenge for management, therefore pregnancy puts the patient at higher risk for complications, most patients can have successful pregnancies with careful planning and understanding of the disease and provide patients with appropriate education and support to enable SLE patients to maintain wellbeing and lead active lives (Ferenkeh, Koroma, 2012).