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Systemic Lupus Erythematosus in Pregnancy and Outcome - A Case Report

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ABSTRACT

SLE is the second most common chronic inflammatory condition which affect every organ of system by tissue binding auto antibodies and immunity complex characterized by frequent remission and relapse. We are reporting a case of primi with known case of SLE on treatment with history of 9 months amenorrhea underwent ceaserean section in view of decreased liquor postoperative period was uneventful

Keywords: *SLE, pregnancy, caesarean section, rheumatology, autoimmune.*

INTRODUCTION

SLE is a multisystem connective tissue disorder characterized by presence of various autoantibodies, circulatory immune complexes and diffuse immune mediated tissue damage. It is more common in female than male to the ratio of 9:1. Hallmark of the disease is intermittent period of increase activity along with period of remission. It is more common in reproductive age group. Previously it was more in black women. Exact etiology is not known, it's a multifactional origin with complex genetic and environmental, monozygotic twins are more common. Genome wide loci may play a role in derangements of normal process such as apoptosis, DNA degradation, clearance of cellular debris and immune complexes, antigen presentation and B -cell ,T- cell, monocytes and neutrophil functioning and signaling.[1;2].Oral contraceptive use and early menopause suggesting an important link between the balance of estrogen and progesterone and immune functioning.[3,4]

CASE REPORT

29 years old primi, booked with known case of SLE on treatment for 2 years with 9 months of amenorrhea's was on Tab Prednisolone, Tab Azathioprine, Tab Hydroxy chloroquine. On examination patient condition was fine.BP was 120/80 mm of Hg,PR-88bpm. CVS, RS -NAD, Per abdomen -uterus term size, cephalic presentation, FHS -heard, clinically liquor reduced PV examination ,Cervix-Uneffaced, OS was closed. All investigations are normal. Induction was done in view of oligohydramnios. Emergency ceaserean section was done in view of failed induction, male baby was delivered cried immediately after birth. APGAR 7,9. Patient was discharged on 7th day in good condition

DISCUSSION

SLE is second most common autoimmune disorder during pregnancy They

Usually present with fatigue fever arthralgia, myalgia, skin rashes more common than Musculo skeletal manifestation.[8] According to Bramham et al. 28% SLE with preexisting cases has developed pre-eclampsia. Depending upon the severity of disease preterm is more

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common. Placental insufficiency leads to fetal growth restriction.10-20% of SLE patient early pregnancy loss.[9]. Neonatal lupous erythromatosus serious condition of neonate which affect less than 5% [5]is due to trans placental passage of anti -RO/Sjogren's syndrome(SS)SS-A and /or anti -LA/SS-B antibodies [10] Clowse et al.reported that low compliment levels and positive anti- dsDNA titre in the 2nd trimester of pregnancy associated with higher chance of preterm pregnancy[11]

Diagnosis of SLE

Entry criterion

Antinuclear antibodies (ANA) at a titer of ≥1:80 on HEp-2 cells or an equivalent positive test (ever)

↓

If absent, do not classify as SLE
If present, apply additive criteria

↓

Additive criteria

Do not count a criterion if there is a more likely explanation than SLE.
Occurrence of a criterion on at least one occasion is sufficient.
SLE classification requires at least one clinical criterion and ≥10 points.
Criteria need not occur simultaneously.
Within each domain, only the highest weighted criterion is counted toward the total score§.

Clinical domains and criteria	Weight	Immunology domains and criteria	Weight
Constitutional		***Antiphospholipid antibodies***	
Fever	2	Anti-cardiolipin antibodies OR	
Hematologic		Anti-β2GP1 antibodies OR	
Leukopenia	3	Lupus anticoagulant	2
Thrombocytopenia	4	***Complement proteins***	
Autoimmune hemolysis	4	Low C3 OR low C4	3
Neuropsychiatric		Low C3 AND low C4	4
Delirium	2	***SLE-specific antibodies***	
Psychosis	3	Anti-dsDNA antibody* OR	
Seizure	5	Anti-Smith antibody	6
Mucocutaneous			
Non-scarring alopecia	2		
Oral ulcers	2		
Subacute cutaneous OR discoid lupus	4		
Acute cutaneous lupus	6		
Serosal			
Pleural or pericardial effusion	5		
Acute pericarditis	6		
Musculoskeletal			
Joint involvement	6		
Renal			
Proteinuria >0.5g/24h	4		
Renal biopsy Class II or V lupus nephritis	8		
Renal biopsy Class III or IV lupus nephritis	10		

Total score:

↓

Classify as Systemic Lupus Erythematosus with a score of 10 or more if entry criterion fulfilled.

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The immunological disease associated with risk. of pregnancy associated complication. Flare of the disease of 30 to 60% with preexisting renal disease. More adverse effect like Pre-eclampsia, IUGR, Pre term deliveries ,14%OF SLE patient can developed pulmonary hypertension. The increased blood volume and glomerular filtration rate may result in hyper filtration injury from increased hydrostatic pressure at the glomeruli.[7]

Drugs choice in SLE

Prednisolone, Methyl prednisolone are the recommended during pregnancy They are converted to relatively inactive form by the abundant 11 beta hydroxy steroid dehydrogenase found in human placenta.[12 Tab] Hydroxy-chloroquine is the second drug of choice in SLE which decrease need of steroid .Immune suppressant Tab Azathioprine is a proliferative inhibitor .it is derived from mercaptopurine and inhibit purine synthesis .The placenta metabolizes most of AZA into inactive metabolites and the fatal liver dose not have the enzyme required to metabolize AZA that crosses placenta into the active form.[13]

Reggia et al. reported maternal and fetal side effect of Cyclosporine, a calcineurin inhibitor is another immune suppressant that works by blocking the production of interleukin 2.(IL2).

Cyclosporine is a lipophilic which cross the placental barrier. Nephrotoxic and neurotoxic.[14] Cyclophosphamide an alkylating agent is associated with teratogenic effect. It cannot be given during first trimester but can be used in second and third trimester [15]. Tacrolimus is a calcineurin inhibitor that may be used in conjunction with steroids to treat severe LN when cyclophosphamide not an option. Methotrexate directly kill the chorionic villi and cause fetal death, and its used should be avoided during pregnancy. It has been associated with fetal growth restriction, absent frontal bones, and micrognathia. Women on tab Methotrexate should be counseled appropriately and proper contraception should be adviced The drug should be discontinued and need to wait at least for three menstrual cycle before attempting for pregnancy ,as the drug may persist in the maternal liver.[16] Leflunomides occasionally used for lupus related skin manifestation ,its teratogenic effect associated with facial anomalies.[17] Indomethacin is the drug of choice as NSAID in SLE. Prolonged used can cause early closure ductus arteriosus.[18] Tab. Acetaminophen are narcotic containing preparation are acceptable alternatives. Tab Rituximab, a monoclonal antibody against B lymphocytes which undergoes negligible transplacental transfer during the first trimester [19]. Tab Belimumab is also a monoclonal antibody against B cell is not associated with increased birth defect.[20]Tab Anifrolumab -finia is a type 1 interferon receptor antagonist that have shown benefit in achieving remission.[21]Tumor necrosis factor antagonists can worsen the course of SLE and usually avoided.[22]

CONCLUSION

As SLE is an autoimmune T CELL mediated disease which needs multi-disciplinary approach includes Obsterician, Rheumatologist, Physcian,Fetal medicine. Pre conceptional care and antepartum surveillance, post-partum contraception will help to have better outcome as 80%. Post partum surveillance: Rheumatology follow up, continuation of HCQ therapy during postpartum is advisable. Specific contraceptive measure should be adopted based on disease activity and thrombotic shock.

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