Autoimmune disease in pregnancy

Dr Baidaa abdallah

Systemic lupus erythematosus (SLE)

- chronic autoimmune
- ,more common in women BY 10Times than men
- the incidence is around 1 in 1000 women.
- It may cause disease in any system, but principally it affects the joints (90 per cent), skin (80 per cent), lungs, nervous system, kidneys and heart.
- SLE may be diagnosed prenatally or may be suspected for the first time during pregnancy or postpartum, usually as a result of complications.

The diagnosis is suggested by

- the finding of a positive assay for antinuclear antibodies
- while the presence of antibodies to double-stranded DNA is the most specific for SLE.
- If 4 of the 11 criteria in the ACR classification system for SLE are present serially or simultaneously, a person is said to have SLE.

American College of Rheumatology (ACR) criteria for classification of SLE

- 1. Malar rash
- 2. Discoid rash
- 3. Photosensitivity
- 4. Oral ulcers
- 5. Non-erosive arthritis
- 6. Pleuritis or pericarditis

7. Renal disorder

8. Neurologic disorder

9. Hematologic disorder

10. Immunologic disorder

11. Positive anti-nuclear antibody

- SLE is characterized by periods of disease activity, flares and remissions.
- Pregnancy increases the risk of flares , Flares are more common in the late second and third trimesters, and are no more severe than in non- pregnancy.
- Active disease at the time of conception or new-onset SLE in pregnancy both increase the chance of a flare.,

SLE is associated with significant risks

- 1. miscarriage,
- 2. fetal death,
- 3. pre-eclampsia,
- 4. preterm delivery and
- 5. FGR

Management of SLE in pregnancy

- • *First Trimester*. The mother should book early to multidisciplinary care
- • Initial laboratory studies include
- 1. CBC
- 2. serum creatinine
- 3. 24-hour urine collection for measurement of protein and creatinine
- 4. urinalysis, and a
- 5. lupus panel (antinuclear antibody, anti-Ro and anti-La antibody titers, lupus anticoagulant levels, and anticardiolipin antibody, anti-dsDNA antibody titers,
- 6. Evaluation for lupus flares should be done at each visit

Second Trimester.

- 1.Repeated laboratory studies
- 2.Obstetric ultrasonography should be performed every 4 weeks after 20 weeks' gestation until delivery to monitor fetal growth.
- 3.In women positive for anti-Ro or anti-La antibodies, echocardiography should begin at 16 to 18 weeks' gestation to assess for possible heart block and be repeated weekly until delivery.

Third Trimester.

- 1. Fetal testing, with weekly nonstress tests and/or biophysical profile, may be initiated as early as 28 weeks.
- 2.Doppler ultrasonographic studies should be performed, In the presence of IUGR . Treatment with betamethasone or dexamethasone should be initiated in patients with poor fetal test results or worsening maternal disease in anticipation of a preterm delivery.
- • Postpartum.
- • Repeated labs, as recommended in the first trimester, should be repeated postpartum

antiphospholipid syndrome' (APS)

- is used to describe the association of anti-cardiolipin antibodies (aCL) and/or lupus anticoagulant (LA) with the typical clinical features of arterial or venous thrombosis, fetal loss after 10 weeks, three or more miscarriages at less than 10 weeks, or delivery before 34 weeks due to intrauterine growth restriction or pre-eclampsia. APS may be primary or found in association with SLE

diagnostic criteria for APS

- **Clinical**
- • Thrombosis ,venous • arterial
- • **Pregnancy morbidity**
- • fetal death >10 weeks • preterm birth <34 weeks due to severe pre-eclampsia or growth restriction
- • three or more unexplained miscarriages <10 weeks

- **Laboratory**
- • aCL immunoglobulin (Ig)G and/or IgM
- • medium/high titer
- • two occasions, 8 weeks apart
- • LA • two occasions, 8 weeks apart

Management

- require intensive monitoring for both maternal and fetal indications.
- The mother should book early to multidisciplinary care and be seen frequently
- . Baseline renal studies, including a 24-hour urine collection for protein, should be performed.
- Blood pressure should be monitored closely because of the increased risk of pre-eclampsia.
- Serial ultrasonography is performed to assess fetal growth, umbilical artery Doppler and liquor volume..

Others?

- In women with APS who have suffered repeated pregnancy loss or severe obstetric complications, the combined use of low- dose aspirin and low-molecular-weight heparin has been shown to reduce the pregnancy loss rate

Rheumatoid arthritis (RA)

- This is a chronic multisystem disease of unknown cause with symptoms of synovitis, fatigue, anorexia, weakness. The hands, wrists, knees, and feet are commonly involved. Pain, aggravated by movement, is accompanied by swelling and tenderness. Extra-articular manifestations include rheumatoid nodules, vasculitis, and pleuro pulmonary symptom.

Pregnancy and Rheumatoid Arthritis

- Rheumatoid arthritis improves in up to 90 percent of affected women during pregnancy,no obvious adverse effects of rheumatoid arthritis on pregnancy outcomeis
- . paracetamol-based analgesics
- corticosteroids are preferred to non-steroidal anti-inflammatory drugs, although the latter can be used up to 32 weeks if needed.
- Azothiaprine and hydroxychloroquine have been used in pregnancy, no apparent adverse outcomes
- . Mode of delivery is determined by the usual obstetric indications, except where severe RA limits hip abduction and vaginal delivery is not possible

immune thrombocytopenicpurpura (ITP)

- autoantibodies are produced against platelet surface antigens, leading to platelet destruction by the reticuloendothelial system.
- The incidence in pregnancy is around 1 in 5000. The maternal platelet count may fall at any stage of pregnancy and can reach levels of <50*109/L
- Maternal haemorrhage at delivery is very unlikely if the platelet count is >50*109/L, and spontaneous bleeding during pregnancy very unlikely if the platelet count is >20*109/L

. Management

i. serial monitoring of platelet counts. count remains above 80 *109/LIf the count falls below 50 * 109/L consider treatment.

ii. Corticosteroids suppressing platelet autoantibodies; however, high doses are often required

iii. immunoglobulin G (IgG) has been a major advance in the treatment Although more expensive

iv. . . Vaginal delivery should be facilitated and regional anaesthesia avoided if the platelet count is <80*109/L. Fetal blood sampling in labour and instrumental delivery by ventouse are best avoided because of the risk of fetal thrombocytopenia A cord blood sample must be collected for platelet counting

Myasthenia Gravis

- Myasthenia gravis is a chronic disorder of the neuromuscular junction of striate muscles as result of acetylcholine receptor dysfunction. Antibodies to acetylcholine receptors usually are present.
- It occurs more commonly in females than in males, and its peak occurrence is in the third decade of life. It is characterized by abnormal voluntary muscle function with muscle weakness after repeated effort.

- The most common symptom is easily fatigued small muscles, most frequently the ocular muscles, which results in double vision. Weakness usually increases as the muscles are used repeatedly. Patients who may not have noticeable symptoms in the morning may be easily diagnosed in the afternoon. Difficulties with swallowing and speech are not uncommon, and the facial muscles are almost always affected

Diagnosis

- The diagnosis can be confirmed by *<u>*administering edrophonium*</u> to assess improvement in muscular weakness. A *<u>*radioimmunoassay*</u> for the acetylcholine receptor antibody can be performed. *<u>*Repetitive nerve stimulation*</u> would show a decrement greater than 15% in a person with the condition

Treatment

- Treatment with anticholinesterases (eg, neostigmine) is the same as in the non pregnant state, although dosages must be administered more frequently during pregnancy.
- thymectomy, steroids, plasma exchange, and IVIG. During labor,
- anticholinesterases should be administered parenteral rather than orally. Parenteral and regional anesthesia are not contraindicated in labor.
- Curare like agents (eg. aminoglycoside antibiotics) and magnesium sulfate, as well as the older general anesthetics such as ether and chloroform, should be avoided

- *Women taking anticholinesterase drugs are advised not to be breastfeed*

- *Thank you*