Case presentation

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Demography

- Mrs R 29y Graduate
- Homemaker residing at Sayedabad
- ML 6 yrs
- Regular periods
- LMP 01.10.2019
- EDD 07.07.2020

History

- In 2016

Had history of alopecia, malar rash and polyarthritis
For which she was evaluated

- **INVESTIGATIONS:**

ANA +VE	Anti ds DNA –ve
Anti RNP 3+	Anti RO/LA –ve
Anti Sm 3+	APLA –VE

- Started on

  Tab. Prednisolone 7.5mg once daily and

  Tab. Hydroxy chloroquine 200mg once daily

- CBP, ESR, CUE, LFT, Creatinine, Spot PCR were repeated every 6 months and were normal

- 1st pregnancy-2016

Missed miscarriage at 8w. Surgical evacuation was done

- 2nd pregnancy-2017

Twin pregnancy. Missed miscarriage at 6 w Outpatient medical evacuation was done. Systemic lupus erythematosus in remission.

- In 2018 she developed Proteinuria
- Renal biopsy was done which showed class IIIA lupus nephritis
- Received Tab. Prednisolone, Hydroxychloroquine and Azathioprine.

To Rheumatologist

- When to suspect lupus nephritis?
- How to confirm the diagnosis?
- And once confirmed what should be our treatment plan?

- Received mycophenolate mofetil in view of recurrent flares
- Later it was changed to azathioprine and tacrolimus as she was planning to conceive

To obstetrician

In a patient of lupus nephritis,

- when to plan pregnancy?
- Pre pregnancy evaluation?
- Pre pregnancy drugs switch over?

Prepregnancy counselling

Evaluation

- APLA
- Anti-Ro/SSA and anti-La/SSB antibodies
- Renal function (creatinine, urinalysis with urine sediment, spot urine protein/creatinine ratio)
- Complete blood count (CBC)
- Liver function tests
- Anti-double-stranded deoxyribonucleic acid (dsDNA) antibodies
- Complement (C3 and C4)

Prepregnancy counselling

- Remission for at least 6 months on a regimen which is safe in pregnancy
- Need to switch over to pregnancy safe drugs
- Compliance to medication
- Thorough obstetric and medical h/o
- Counsel about the maternal and fetal risks
- Review with rheumatologist

Present pregnancy

- Remission for >6 months before conception.
- Her initial antenatal check ups were elsewhere.
- Spontaneous conception
- No hyperemesis
- Dating scan done

INVESTIGATION	Preconceptional	@ 9 weeks
Haemoglobin Platelet Count WBC	12.1 gm/dl 2.08 lakhs/cumm 8300/cumm	9.9gm/dl 2lakhs/cumm 10500/cumm
LFT Total Bilirubin SGPT Alkaline Phosphatase Globulin A/G Ratio Albumin	 0.5mg/dl 26U/L 52u/l 2.9gm/dl 1.3gm/dl 3.8gm/dl	 0.4mg/dl 13U/L 38U/L 2.8gm/dl 1.1 3.1gm/dl
Sr.Creatinine Urine albumin Spot PCR	0.5mg/dl Trace 0.13	0.4mg/dl Trace

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Medication

- Folic acid
- Ecospirin 75mg once daily
- Inj.Clexane 40mg s.c once daily
- Tacrolimus (1.5-1gm) daily
- Prednisolone 5mg once daily
- Azathioprine 75mg once daily
- Hydroxychloroquine 200mg once daily

Second Trimestar

- Started on Iron, Calcium, Vit D3 tablets.
- TIFFA scan- normal
- Continued all the medications
- At 23 weeks, she developed anasarca
- On evaluation found to have Proteinuria and hypoalbuminemia

Hemoglobin WBC count Platelets	9.2gm/dl 9200/cumm 191000lakhs/cumm
Total bilirubin SGPT Alkaline phosphatase Serum albumin Serum globulin A/G ratio	0.2mg/dl 10U/L 45U/L 1.5gm/dL 2.1gm/dl 0.7
ESR	72
Creatinine Spot PCR Urine albumin 24hrs urinary protein Urine C/S	0.7mg/dl 6.51 2+ 4.58gm sterile

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To Obstetrician

- What are the differential diagnosis and why is it difficult to diagnose in pregnancy?

- Suspecting SLE flare, she was given
- Methylprednisolone pulse therapy followed by Tab. Prednisolone 40mg - later tapered to 10mg once daily
- And continued
- Tab. Azathioprine 75mg once daily
- Tab. Tacrolimus increased to 2.5mg once daily
- Tab. Hydroxychloroquine 200mg once daily.

- With this background she was referred to FH for further AN care at 25 weeks

General examination

- BMI-31.68 with weight- 73.2kg
- She is pale, with no icterus, cyanosis, clubbing, Grade 4 pedal oedema, anasarca+
- Vitals

  BP- 135/82mmof hg, PR- 80/min, SpO2-98%
- CVS- S1,S2+ no murmurs
- RS- Normal vesicular breath sounds

Investigations

	@25weeks
Hb WBC Platelets	8.5 18900 230000
CUE	Normal
Albumin	4+
creatinine	0.9

To obstetrician

- What is the pregnancy plan for her?

Pregnancy plan

Maternal plan

- High risk pregnancy
- Frequent AN visits
- Multidisciplinary approach
- Maternal & fetal risks
- Examination
- Compliance to drugs
- Lab investigations

-Check CBC, Creatinine, LFT every month

-Urine examination every visit

Fetal plan

- Fetal growth surveillance
- 26 ,32,36 weeks

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Medications

- Iron dosage increased, continued calcium, vitD3 tablets
- Inj. Enoxaparin , Ecospirin , Azathioprine, HCQ, Prednisolone and Tacrolimus
- Tab. Furosemide 40mg twice daily and Tab. Metolazone 5mg once daily started for anasarca.
- 1 month later her oedema subsided Metolazone stopped and later dose of Furosemide was tapered and continued at 20mg once daily.

To Rheumatologist

- Indication for diuretics?
- How to manage Anasarca due to hypo proteinemia?
- Is there any role of Albumin infusion?

Investigations

	25w	27-28w	30+3w	34w	35+5w
Hemoglobin WBC Platelets	8.5 18900 230000	8.3 15100 207000	8.4 14200 204000	9 12000 169000	9.2 12700 165000
MCV/MCH/ MCHC		89/30.2/33.8	87/29.2/33.2		90/30.1/33.4
CUE Albumin Urine c/s	normal 4+	normal 3+ sterile	normal 3+	normal 2+	
Creatinine	0.9	0.6	0.5	0.4	
electrolytes				normal	normal

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Other antenatal comorbidities

- Detected Gestational diabetes at 27 w : Inj. Insulin as per blood sugar levels
- Anemia work up
- Sr.ferritin & Vit B12 tests done -normal.
- HPLC done: HbD trait – Punjab Heterozygous

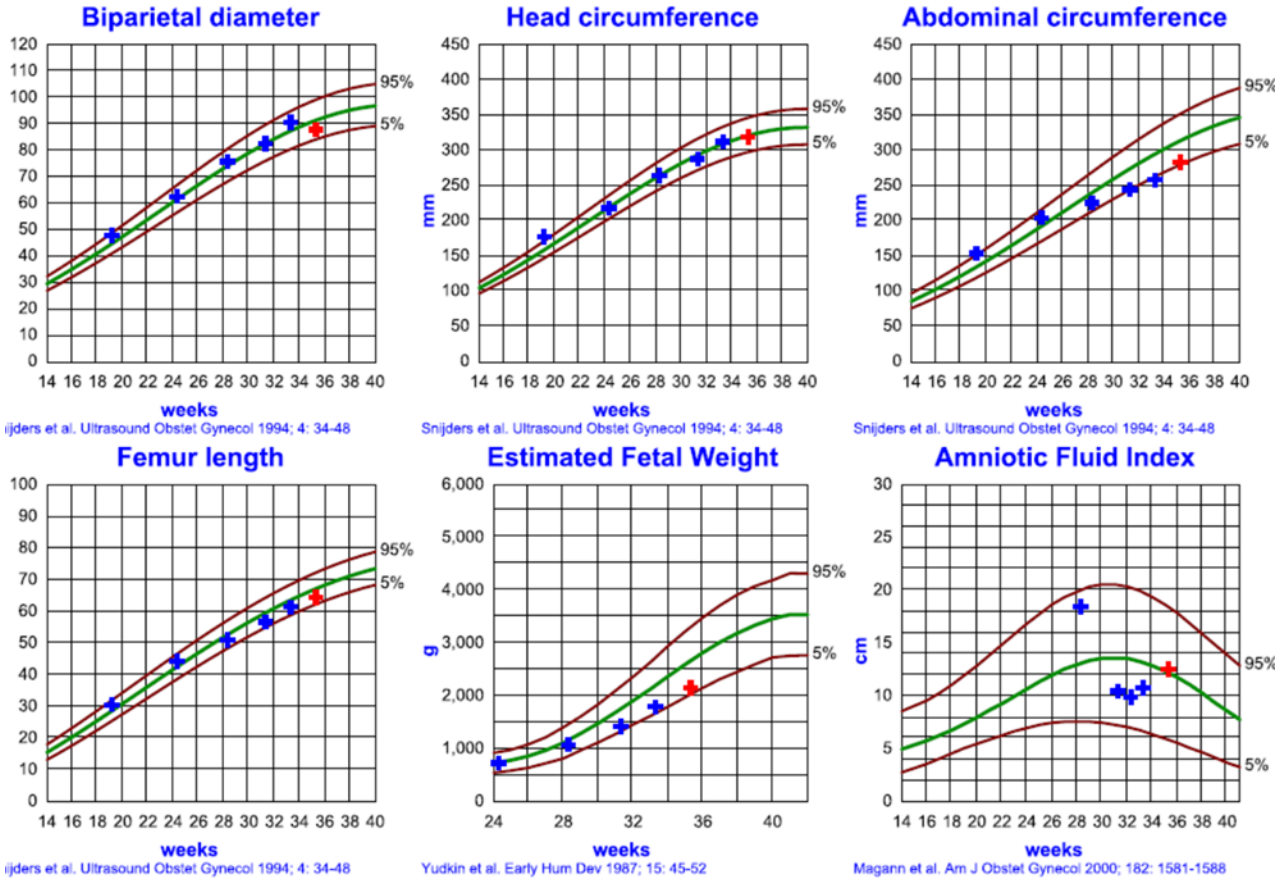
To Rheumatologist

- Inj. Erythropoietin…. Role in treatment in anaemia in pregnancy?

Third trimester

- No worsening signs and symptoms of flare
- Remained normotensive through out the pregnancy
- Continued all the medications
- At 29 weeks, Epistaxis+
- Stopped ecospirin and restarted at 31 weeks
- At 32 weeks ,steroid cover for fetal lung maturity was given

Foetal surveillance



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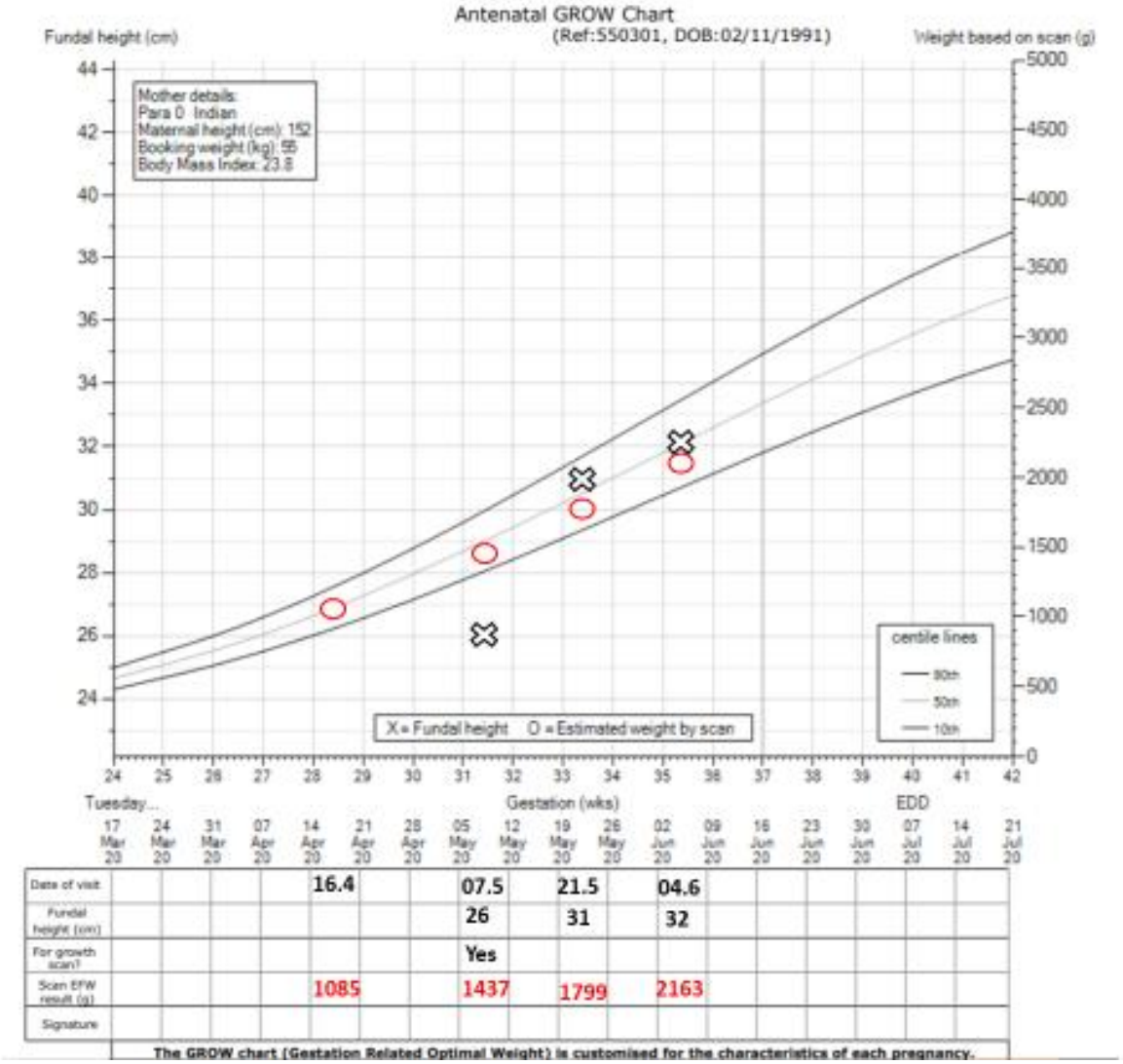
Foetal surveillance.. GROW



Admitted for delivery

- Patient was readmitted at 35+3 w in view of Fetal growth restriction with abnormal dopplers .
- Labour was induced
- Caesarean section was done in view of failed induction
- She delivered a male baby of 2kg(9.7c) with APGAR 7/8/8 at 36 weeks

To obstetrician

- When would you like to deliver a patient with Lupus nephritis?

- The abdominal wound had healed well and she was discharged on POD-3
- Discharged on
- Tab.Prednisolone 10mg once daily
- Tab.HCQ 200mg once daily
- Tab.Tacrolimus 2.5mg once daily
- Tab.Azathioprine 75mg once daily
- Tab.Furosemide 20mg once daily
- Inj.Clexane 40mg S/C once daily for 2 weeks

Lupus nephritis

- Common & severe manifestation of SLE
- Due to immunoglobulin complex deposition

- Active lupus nephritis
  - proteinuria>0.5g/day
  - creatinine >1.2mg/dl
  - active urinary sediment

ISN/RPS classification of lupus nephritis

CLASS 1	Minimal mesangial lupus nephritis
CLASS 2	Mesangial proliferative lupus nephritis
CLASS 3	Focal lupus nephritis A- active lesions A/C- active and chronic lesions C- chronic lesions
CLASS 4	Diffuse lupus nephritis
CLASS 5	Membranous lupus nephritis
CLASS 6	Advanced sclerosing lupus nephritis

Effect of lupus nephritis on pregnancy

Maternal

- Preeclampsia-11 to 30%

Fetal

- Preterm birth- 39.4%
- IUGR- 12.7%
- Still birth- 3.6%
- Neonatal death-2.5%

Review > Clin J Am Soc Nephrol. 2010 Nov;5(11):2060-8. doi: 10.2215/CJN.00240110. Epub 2010 Aug 5.

A systematic review and meta-analysis of pregnancy outcomes in patients with systemic lupus erythematosus and lupus nephritis

Andrew Smyth [1], Guilherme H M Oliveira, Brian D Lahr, Kent R Bailey, Suzanne M Norby, Vesna D Garovic

Effect of pregnancy on lupus nephritis

- Risk of deterioration is higher with persistent proteinuria and at higher creatinine values

Risk of flare	30%
Acute kidney injury	10%
Permanent kidney damage without dialysis requirement	3%
ESRD	6%

Pregnancy and renal outcomes in lupus nephritis: an update and guide to management

K Bramham, MC Soh, C Nelson-Piercy

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THANK YOU

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