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**Title: A multidisciplinary approach for managing thrombocytopenia in pregnancy**



## INTRODUCTION

- **Thrombocytopenia** develops in **5-10%** of women during pregnancy or postpartum.
- **Three** diagnostic categories explain the majority of cases of thrombocytopenia seen in pregnancy.
- **Gestational thrombocytopenia (GT)** accounting for **70-80%** of cases typically in the mid-second to third trimesters.
- **Hypertensive disorders** such as pre-eclampsia account for **20-40%** of cases at term.
- **Immune thrombocytopenia (ITP)**

## CASE REPORT

26 years,G4P3L3 with 26.2 weeks gestation with previous 3 FTNDs.  
presented to the EMS with complaints of :  
➤Generalized weakness and myalgia since 10 days  
➤On and off fever (not associated with chills)  
➤Dark patches over the lower limbs  
➤Ulcers in the mouth  
➤H/O hematemesis 10 days back

## OBSTETRIC HISTORY

- P3L3 with all previous 3 FTND , all deliveries were at term and institutional .All three childrens are alive and well.

## ON EXAMINATION

- O/E: height - 156 cm weight 72 kg
- pre-pregnancy weight 65kg BMI- 26.7
- General condition : moderate
- P-88bpm
- BP-90/60 mmhg in the right upper limb in left lateral position
- SPO2-99%
- Dark patches, ecchymosis ,petechia of B/L lower limbs
- B/L conjunctival hemorrhage
- Mouth ulcers and petechia in mouth
- No e/o thyroid swelling
- Breast showed normal changes of pregnancy
- CNS- conscious , oriented
- CVS- S1S2+
- RS- AEBE
- PA- ut 26 wk,EB + FHS + /148bpm/R relaxed
- PV- NAB



## INVESTIGATIONS

Admitted in MICU , Hematology , Rheumatology and Nephrology references taken.

Following investigations were done-

- CBC- 6.6/4800/8000
- URM-
  - 10-12 RBC
  - protein ++
- 24hr urinary protein – 2197 mg/dl
- ANA – positive +++ speckled
- Ui RNA 3 - +++
- D-dimer - >3000 ng/ml
- Fibrinogen – 272 mg/dl
- UPCR – 0.89
- IPF – 10.8
- LFT - .9/25/24
- RFT – 14/.7
- PTINR – 13.7/1.14



## COURSE IN WARD AND MANAGEMENT

- Provisional Dx – **MCTD (Mixed connective tissue disease) with secondary thrombocytopenia** ( with hematological and nephrological involvement )

❑ Management-

- Inj Methylprednisolone 1 gm i/v - 3 doses
- 2 pint PRC
- 5 pint RDP

- On day 3 patient

C/O severe headache – CT Brain S/O Thin SUB DURAL HEMORRHAGE –with a max thickness of 4.2 mm in the midline of falx

Mx conservatively – Inj IV Immunoglobulin 5mg – 2 doses

6 pint RDP  
T. Azoran 50mg OD  
T. Prednisolone 60 OD

- ON day 16  
HRCT – CORADS 5 v/s Pulmonary hemorrhage  
COVID RTPCR – negative

Bronchial Alveolar Lavage - hemosiderin laden cells present – s/o Pulmonary Alveolar Haemorrhage – Mx conservatively  
Bone Marrow aspiration done

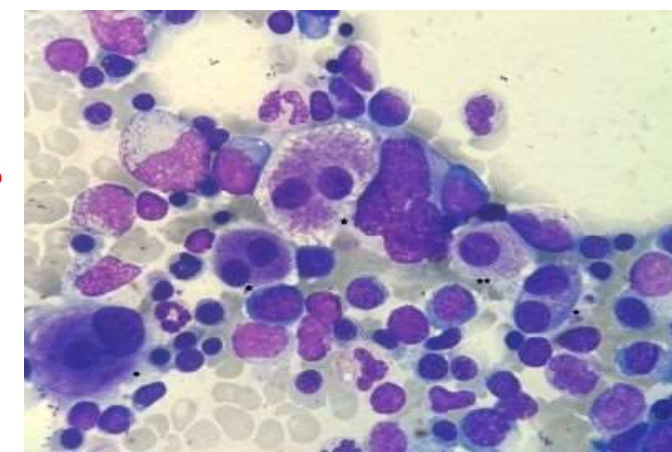
- Patient became symptomatically better in 6 weeks and discharged at 31 wk  
(CBC – 9.3/7400/181000) and advised to follow up with Bone Marrow biopsy report.

## REFERENCES

- ❑ <https://www.glowm.com/section-view/heading/Autoimmune%20Connective%20Tissue%20Disease%20in%20Pregnancy/item/167>
- ❑ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6416686/>
- ❑ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5873661/>

## SECOND ADMISSION

- Patient followed up at 32 wk of gestation with
- Bone marrow Biopsy report – s/o **hypocellular marrow with adequate dysplastic megakaryocytes**
- C/O generalized fatigue and weakness
- No other complaints of petechia , ecchymosis or any bleeding manifestations.
- CBC – 9.7/6400/41000
- Management : Inj Romiplostim 250 mg s/c weekly – 2 doses
- Discharged at 33 wk with : CBC – 10.2/7100/103000



T. Predni 60 mg OD in a tapering dose by

5mg per week

T. Azoran 50 mg OD

- Advised F/U after 1 wk with CBC.

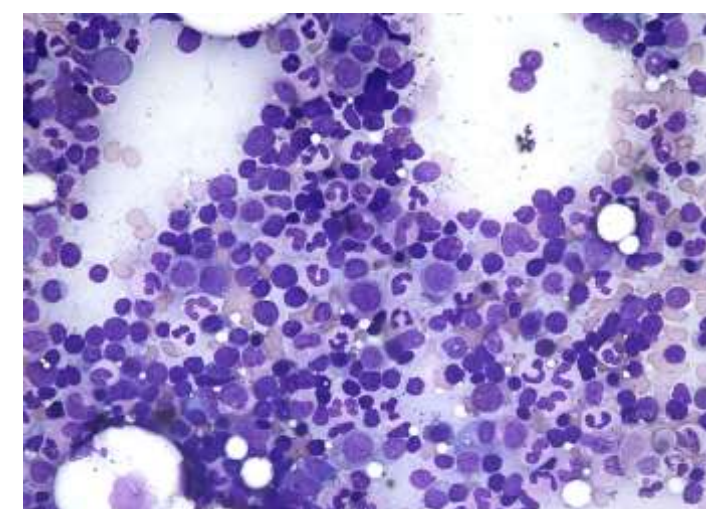
## THIRD ADMISSION

- Patient was readmitted at 35 wk of gestation with CBC - 9.4/6500/11000
- no active complaints ,
- Inj Romiplostim 250 mg s/c 3<sup>rd</sup> dose was given.
- Plan for termination of pregnancy as patient might need higher order immunosuppressant drugs such as cyclophosphamide.
- OBGY reference done – advised platelet build up for induction of labor.
- Inj IVIG 1gm i/v 2 doses
- 2 pint SDP transfused
- CBC – 9.2/6600/70000
- Pt. went into spontaneous labour at 37 weeks and **delivered male baby of 2.7 Kg vaginally . Baby was healthy .**
- Pt. was given thromboprophylaxis inj LMWH s/c for 3 days.
- On Day 5 PNC , CBC – 8.9/7200/8000.
- 9 point RDP transfused.
- Day 8 PNC with CBC – 9.0/8300/70000.
- Day 10 PNC , CBC – 8.8/7600/11000
- Started on , T. Eltrombopag 50 mg OD.
- T. Predni 50 mg OD in tapering dose.
- T. Azoran 50 mg OD
- Platelet monitored – 11k – 17k – 23k – 55k – 72k
- On Day 27 PNC , pt. had ecchymotic patches all over body
- c/o generalized body ache and joint pain.
- CBC – 8.8/6500/12000

Mx – Inj Romiplostim 250 mg s/c weekly  
Inj Methylprednisolone 1gm i/v 3 doses

- Repeat Bone marrow Aspiration report – **normocellular marrow with adequate megakaryocytes**

- Patient became symptomatically better.
- On DAY 35 PNC , patient was discharged with,
  - CBC – 9.0/12000/120000
  - Inj Romiplostim 250 mg s/c weekly
  - T. Prednisolone 50 mg OD on tapering dose.
  - T. Azoran 50 mg OD
- Advised biweekly follow up with CBC REPORT.



## DISCUSSION

- Mixed connective tissue disease is a multisystem rheumatic disease with overlapping features of SLE, systemic sclerosis, rheumatoid arthritis, likely myositis.
- This syndrome has been described in conjunction with ANAs and antibodies to ribonucleoprotein.
- The course of mixed connective tissue disease during pregnancy is similar to that seen in SLE patients.
- Some patients experience disease exacerbations, but most without any significant worsening of their condition.
- MCTD in pregnancy puts women at risk of medical and obstetric complications, and disease activity probably increases this risk
- The changes in hormonal profiles found in pregnancy induce important immunomodulatory changes, with direct consequences on immune-mediated connective tissue diseases .
- Maternal complications included preeclampsia , thrombocytopenia, thromboembolism events, and death.
- Fetal complications included prematurity , intrauterine growth restriction , and neonatal lupus , neonatal thrombocytopenia.
- Mild flares during pregnancy can be treated with low-dose oral steroids.
- For moderate or severe disease, the use of methylprednisolone pulses or high-dose oral steroids followed by rapid reduction of oral steroids to low maintenance doses, combined with safe immunosuppressants, biologic agents and/or IVIG might be necessary .
- More severe cases might require a risk–benefit assessment and prioritization of the mother's welfare over fetal concerns and, therefore, the use of stronger agents, such as Mycophenolate mofetil, Cyclophosphamide or rituximab (RTX) which are contraindicated in pregnancy.
- In view of life-threatening complications in mother as well as the fetus, termination is the best choice
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## CONCLUSION

- Pre-pregnancy counselling, risk assessment and stratification, a multidisciplinary approach, tailored antenatal and postnatal management plans, an experienced high-level neonatal unit, and early recognition of flares and complications (either medical and/or obstetric), are essential cornerstones for optimizing the chance of successful outcomes for both mother and fetus.
- Because of a high risk of disease flare and thrombosis, close surveillance for 2–3 months after delivery is important. All women should have an assessment of their VTE risk and receive thromboprophylaxis postpartum accordingly.