



Diagnostic Dilemma in a Primigravida with Severe Refractory Anemia – A case report

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Objective

To understand the evaluation and management of anemia in pregnancy refractory to iron therapy

Case history

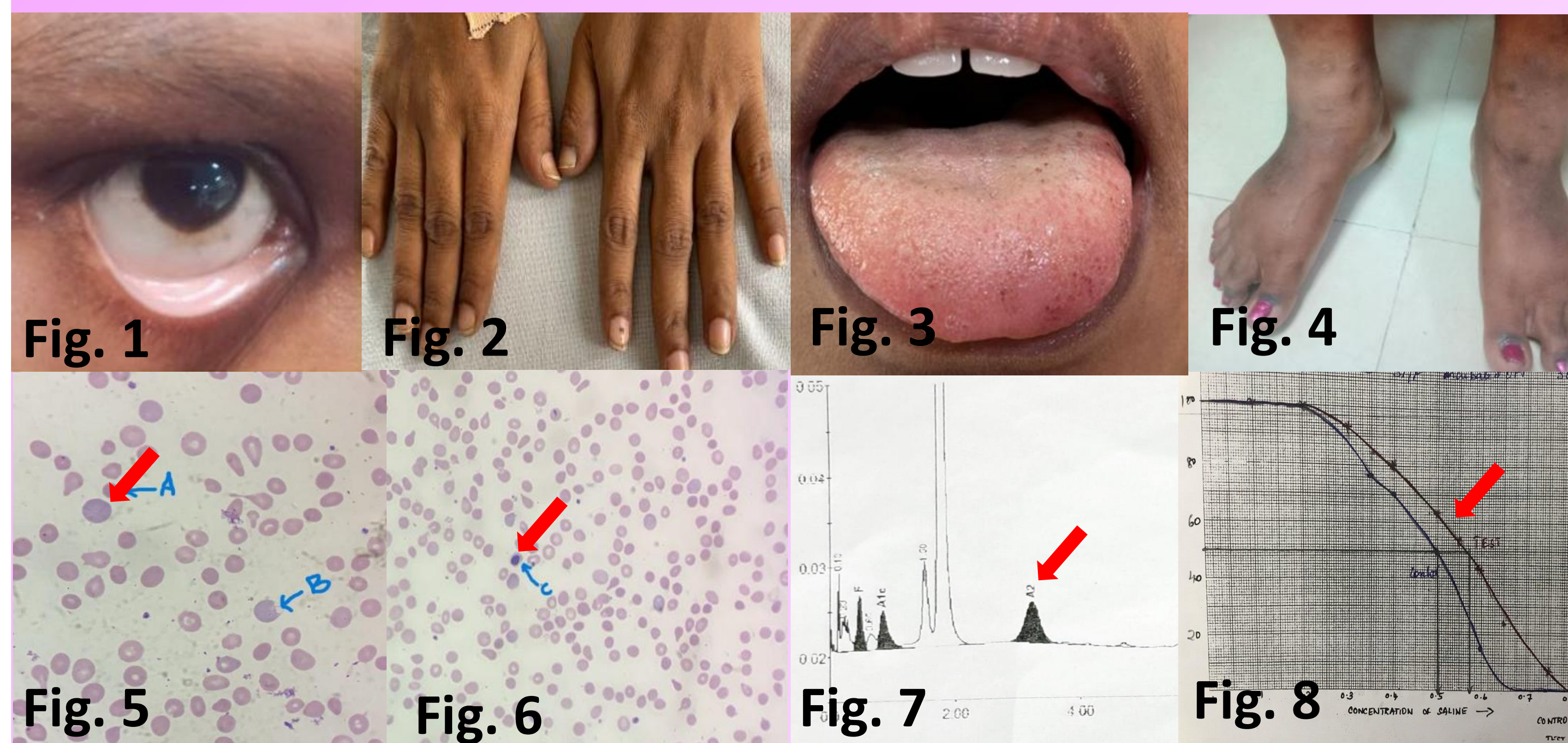
- 31 years, primigravida at 26 weeks presented with severe anemia (Hb 6.6g/dL)
- She was diagnosed with anemia at 3rd month of gestation with Hb of 8.3g/dL
- She received parenteral iron therapy when Hb was 6.2g/dL at 4th month of gestation and was subsequently started on oral iron
- She had complaints of swelling of feet since 6th month
- No history of fatigue/ breathlessness /palpitations/ giddiness

Examination

- Conscious, oriented
- Pulse rate 98bpm
- BP 96/60mmHg
- Pallor + in conjunctiva and nail beds (Fig.1,2)
- Glossitis + (Fig.3)
- Pitting bilateral pedal edema + (Fig.4)
- Auscultation of chest : soft systolic murmur in all areas, bilateral lung fields clear
- Abdomen: Fundal height 28 weeks, cephalic, FHS +

Investigations

- CBC : Hb 6.1 g/dL, Platelet 1.9L, TLC 7650, Retic count 4.48%
- Peripheral smear: normocytic normochromic RBCs with polychromatophils and moderate anisopoikilocytosis, basophilic stippling(Fig. 5), nucleated RBC(Fig.6)
- RFT normal
- T.Bilirubin 2mg/dL (Direct 0.32)
- Iron studies: S. Iron 242mg/dL, S. Ferritin 161ng/ml
- LDH 852 IU
- S.Vitamin B12 128pg/ml
- HPLC Beta thalassemia trait with HbA2 - 7.2% (Fig.7)
- Osmotic fragility test : shift to right (increased) (Fig.8)
- Methaemoglobin reduction test for G6PD deficiency negative
- Cerruloplasmin level normal, KF ring absent



Diagnosis : Severe anemia refractory to iron therapy due to beta thalassemia trait and hemolysis complicated by Vitamin B12 deficiency

Management

- She received 2 PRBC transfusion and Vitamin B12 i.v. injections daily for a week. Patient was discharged with Hb 7.4g/dL. She continued to receive Vitamin B12 weekly for 4 weeks followed by monthly.
- She was readmitted at 34 weeks with Hb of 6.6g/dL. 2 units of PRBC was transfused
- At 38+5 weeks, labour was induced for FGR and she delivered vaginally uneventfully
- She was discharged with postpartum Hb of 8.2g/dL

Discussion

- Most common cause of anemia in pregnancy is iron deficiency. However, if Hb does not improve after 4 weeks of iron therapy, evaluation for other causes must be considered.
- Evaluate for hemoglobinopathies, chronic diseases, hemolytic diseases, blood loss must be evaluated.
- Beta thalassemia can get aggravated in pregnancy and manifest as intermedia.
- A multi-disciplinary approach involving obstetrician, hematologist, blood transfusion specialist, geneticist is necessary to optimize outcomes.