

Clinical Case1

Learning Objectives:

By the end of the CBL, students will be able to

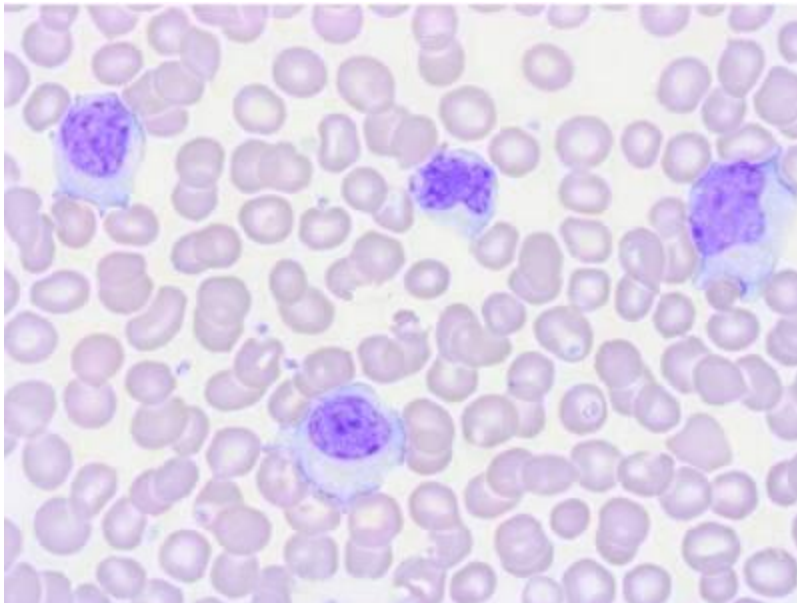
1. Interpret the report of Complete Blood Count.
2. Identify abnormalities in a Complete Blood Count.
3. Describe different types and causes of anemia.
4. Understand Iron deficiency anemia.

A 28-years-old professional lady, resident of Karachi , is in the first trimester of her first pregnancy. Though her pregnancy has been progressing uneventfully, recently she has noticed that she gets tired easily and is short of breath on even slight exertion. She also has experienced periods of light-headedness, though not to the point of fainting. Further she has noticed cramps in her legs, a desire to crunch on ice, and that her tongue has become sore. She is concerned so she makes an appointment to see her physician.

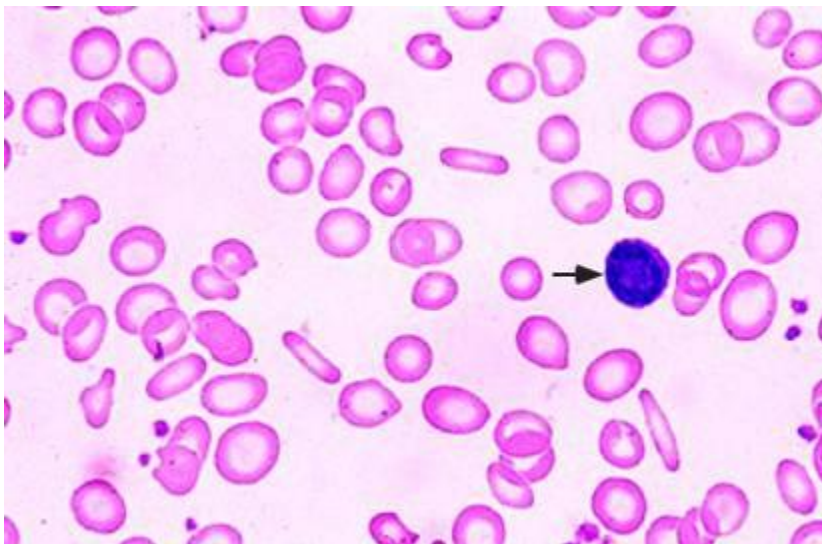
On examination the physician finds that her heart rate is 120/ minute, BP is 100/ 56mmHg, she has pallor, pale gums and nail beds. Given her history and the findings on her physical exam, the physician orders some blood tests. The results are shown below:

Table 1.Complete Blood count	
Red Blood Cell Count	3.5 million/mm ³
Hemoglobin (Hb)	6.7 g/dl
Hematocrit	23.3%
Mean corpuscular volume (MCV)	62fL
Mean Corpuscular Hb Concentration (MCHC)	30g/dl
Mean Corpuscular Hb (MCH)	19.0pg/cell
White blood cell count	5,300/uL

Platelet count	5,50,000/L
Reticulocyte count	1.4



Normal Peripheral film



Abnormal Peripheral Film

- Q1. What can be cause of her symptoms?
- Q2. What are the abnormalities present in this CBC report?
- Q3. What do you mean by MCV, MCH, MCHC ?
- Q4. Why the reticulocyte count was advised?
- Q5. What type of anemia has she got?
- Q6. What are the causes of this type of anemia?
- Q7. What could be the most probable cause in this patient?
- Q8. What further tests would you advice?

Serum iron	20mcgm/dL
Serum TIBC	534mcgm/dL
Serum ferritin	10ng/dL

- Q9. What contribution is dietary deficiency likely to make to this patients iron deficiency?
- Q10. What common mechanism can cause a woman aged 28 to become iron deficient?
- Q11. What other parts of the physical examination are important in trying to find the cause of iron deficiency?
- Q12. Which other disease mechanisms besides blood loss could lead to iron deficiency?
- Q13. What are the principles of treatment?
- Q14. How does the method of giving iron influence the rate of Hb response?