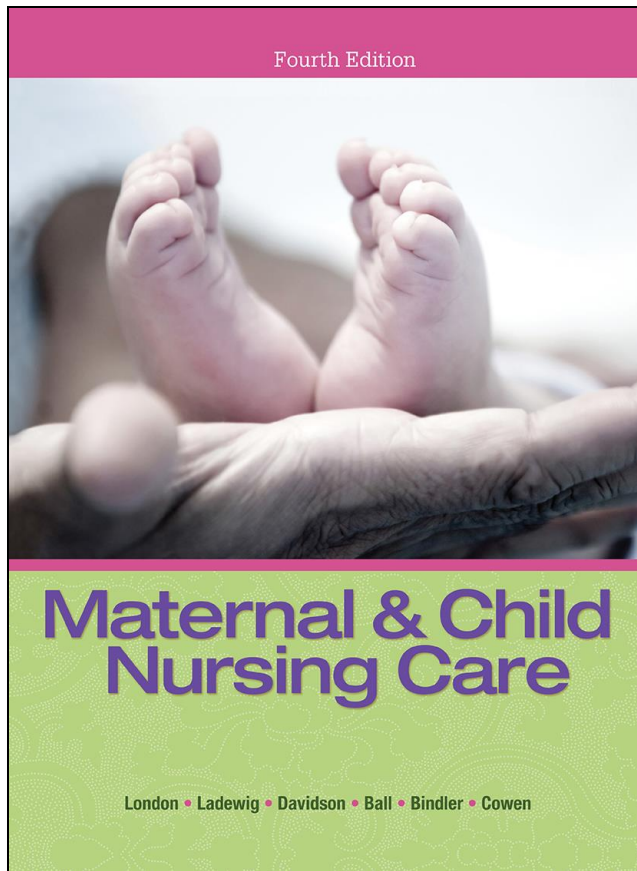


MATERNAL & CHILD NURSING CARE

FOURTH EDITION



CHAPTER 15

Pregnancy at Risk: Pregestational Problems

Anemia

Learning Outcome 15-2

Distinguish among the four major types of anemia associated with pregnancy with regard to signs, treatment, and implications for pregnancy.

The main causes of anemia

- Decreased red blood cell production i.e. Deficiency of iron, B12, folate, tumors, dysfunctional bone marrow
- Increased red blood cell destruction i.e. autoimmune hemolytic anemia, DIC, malaria, sickle cell, thalassemia
- Red blood cell loss i.e. bleeding

Iron Deficiency Anemia

- Most common medical complication of pregnancy
- Indicates inadequate levels of hemoglobin in the blood
- Inadequate iron intake results in hemoglobin (Hb) levels below 11 g/dL
- Prevention
 - Supplemental iron during pregnancy
 - Iron-rich diet

Increased Iron Demands

- 1000mg extra elemental iron required in pregnancy
- Cannot be met by diet alone
- Undernutrition compounds the problem

Classification Based on Severity

	WHO & AGOG
Mild	9 – 11 gm/dl
Moderate	7 - 9
Severe	<7

Clinical Features - Symptoms

- Mild anemia is usually asymptomatic
- Moderate anemia - weakness, fatigue, exhaustion, loss of appetite, indigestion, giddiness, breathlessness
- Severe anemia - palpitations, tachycardia, breathlessness, increased cardiac output, cardiac failure, pulmonary edema

Iron Deficiency Anemia – Maternal Implications

- Easily tired
- More susceptible to infection
- Increased chance of preeclampsia–eclampsia and postpartum hemorrhage
- Cannot tolerate even minimal blood loss during birth
- Possible delayed healing of episiotomy or incision

Iron Deficiency Anemia – Fetal Implications

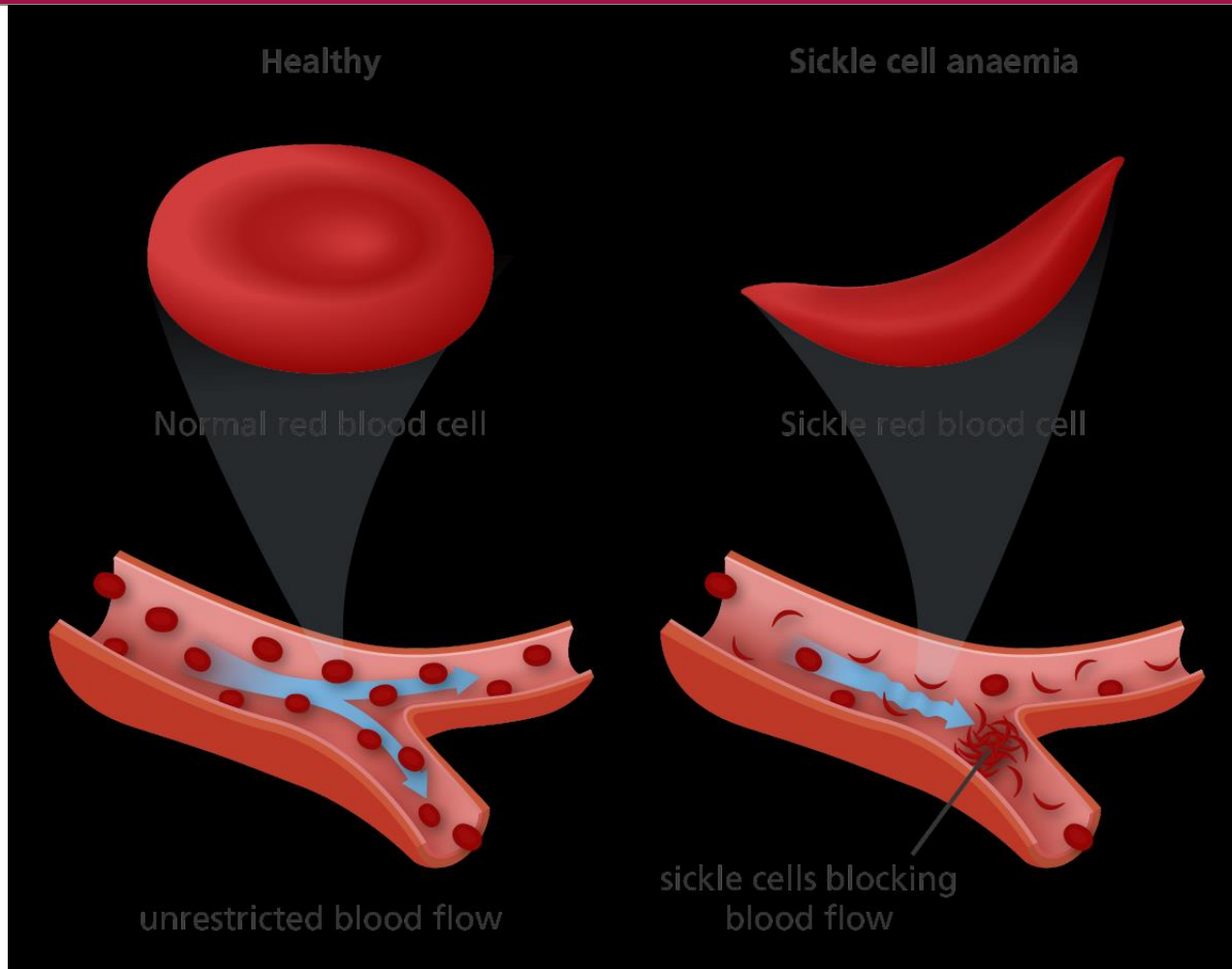
- Increased risks in women with severe iron deficiency anemia (maternal Hb less than 6 g/dL)
 - Low birth weight
 - Prematurity
 - Stillbirth
 - Neonatal death
- Fetal hypoxia during labor due to impaired uteroplacental oxygenation

Sickle Cell Anemia

- Recessive autosomal disease
- Abnormal formation of normal adult hemoglobin (hemoglobin A)
- Prevalence
 - Primarily African descent
 - Occasionally Southeast Asian or Mediterranean descent
- Decreased oxygenation produces sickling of red blood cells (RBCs)

continued on next slide

Sickle Cell Anemia



Sickle Cell Anemia

- Hb levels maintained by intense erythropoiesis
- Additional folic acid supplements (1 mg/day) necessary

continued on next slide

Sickle Cell Anemia

- Sickle cell crisis
 - Profound anemia
 - Jaundice
 - High temperature
 - Infarction
 - Acute pain

continued on next slide

Sickle Cell Anemia

- Treatment of sickle cell crisis
 - Rehydration with intravenous fluids
 - Oxygen administration
 - Antibiotics
 - Analgesic
 - Fetus monitored throughout crisis

Sickle Cell Anemia – Maternal Implications

- Pregnancy may aggravate sickle cell anemia and bring on a vaso-occlusive crisis
- Maternal mortality rare

continued on next slide

Sickle Cell Anemia – Maternal Implications

- Significant associated risks
 - Pyelonephritis
 - Pneumonia
 - Acute chest syndrome
 - Gestational hypertension
- Congestive heart failure acute renal failure may also occur

continued on next slide

Sickle Cell Anemia – Maternal Implications

- Treatment
 - Reduce anemia & maintain good health
 - Prompt treatment of infections
 - Oxygen supplementation throughout labor
 - IV fluids
 - Fetal heart rate closely monitored
 - Antiembolism stockings postpartum

Sickle Cell Anemia – Fetal Implications

- Risk for death due to maternal complications
 - Preterm labor
 - Prematurity
 - Intrauterine growth restriction (IUGR)
 - Low birth weight

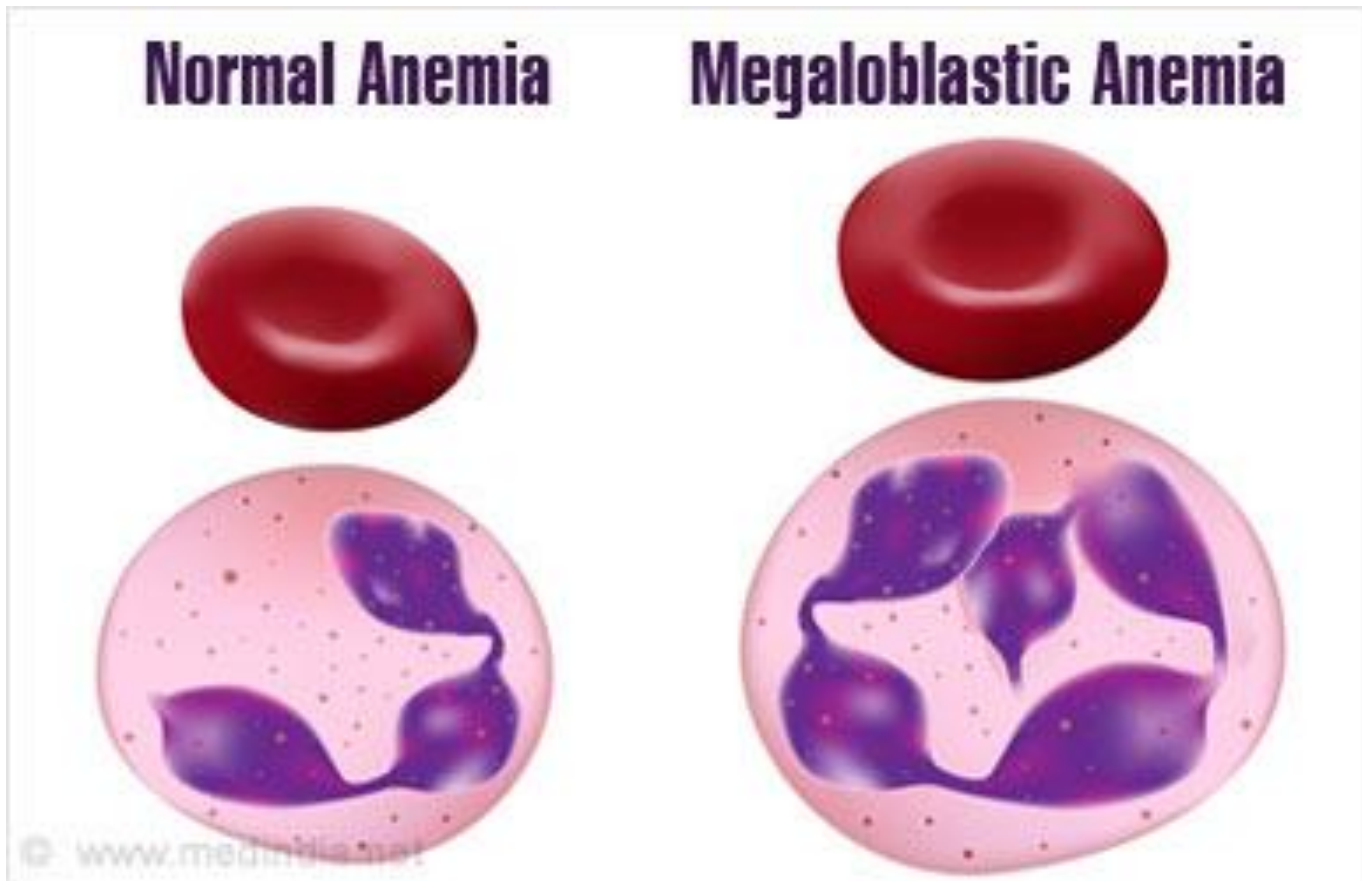
Folic Acid Deficiency Anemia

- Folic acid is necessary for RBC formation & neural tube formation
- Potential causes of folic acid deficiency
 - Increased folic acid metabolism during pregnancy & lactation
- 400 mcg folic acid daily for all women
 - Before conception and through at least first trimester
- Condition treated with 1 mg folate daily

Folic Acid Deficiency Anemia

- Most common cause of megaloblastic anemia → a condition in which the bone marrow produces unusually large, structurally abnormal, immature red blood cells (megaloblasts)
- megaloblastic anemia is caused by:
 - ✓ Vitamin B-12 Deficiency
 - ✓ Folate Deficiency

Folic Acid Deficiency Anemia



Folic Acid Deficiency Anemia – Maternal Implications

- Second most common cause of anemia in pregnancy
- Increased risks associated with severe deficiency
 - Likelihood of need for blood transfusion following birth
 - Hemorrhage
 - Susceptibility to infection

Folic Acid Deficiency Anemia – Food Sources

Home work

Folic Acid Anemia – Fetal Implications

Home work

END