Unit VI Problems with Hematological System

Polycythemia

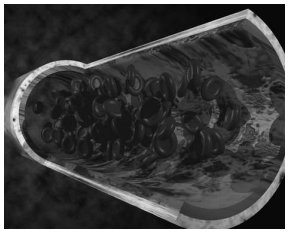
Lemone & Burke
Chapter 34, pages 1117-1118

Objectives

- Describe the etiology, pathophysiology, clinical manifestation, and collaborative management associated with polycythemia (primary and secondary)

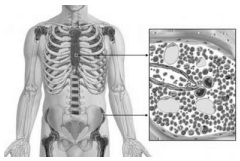
Definition

An excess of red blood cells characterized by a hematocrit higher than 55%



Primary Polycythemia

- Polycythemia Vera (PV)
- Neoplastic stem cell disorder
- Uncommon - cause unknown
- RBC production is increased
- More commonly affects men of European Jewish ancestry between ages 40-70.

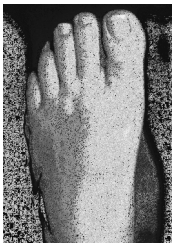


Polycythemia Manifestations

- Diagnosis: routine blood test
  - Increased blood volume and viscosity
- Hypertension is common
  - Headaches, dizziness, vision, hearing problems

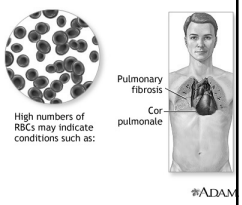
Polycythemia Manifestations (Cont.)

- Weight loss, night sweats, pruritus
- Complications:
  - Splenomegaly (PV only)
  - Portal hypertension
  - Gastrointestinal bleeding
  - Intermittent claudication
  - Thrombosis within various organs
  - TIA, angina



Secondary Polycythemia

- *Erythrocytosis*
  - Most common form
  - Erythropoetin levels are elevated
  - Affects people at any age or origin
  - Usually develops in response to ***hypoxia*** (living at high altitudes, smoking, or chronic lung disease)



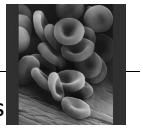
Relative Polycythemia

- Occurs due to fluid deficit, not excess RBC's
- Total RBC count is normal
- Hematocrit is elevated because of increased cell concentration
- Corrected by rehydration.

Diagnosis

- Primary- serum erythropoietin levels are normal or low
  - Bone marrow studies show hyperplasia of all hematopoietic elements.
- Secondary- serum erythropoetin levels are high
  - bone marrow studies show only red stem cell hyperplasia.

Treatment



- PV-chemotherapeutic agents to suppress marrow function,
  - increase the risk of leukemia.
- Quit Smoking
- Raise oxygen saturation levels
- Phlebotomy
- Antihistamines
- ASA

Nursing Care

- Education about smoking cessation
- Prevention of CV disease may be beneficial
- Maintaining adequate hydration
- Prevention in blood stasis
- Instruct in s/s of thrombosis
- Assess for possible bleeding
- Monitor HCT and cell counts

Nursing Diagnoses

- ***Decisional conflict regarding smoking cessation*** r/t addictive effects
- ***Pain*** r/t effects of altered blood flow in distal extremeties
- ***Risk for ineffective tissue perfusion*** r/t sluggish blood flow and increased risk for thrombosis.