Unit 7: Hematology
Chapter 33 & 34
ONLINE CONTENT (2H)

Complete the worksheet and submit in the Unit 7: Hematology dropbox by March 17, 2025 at 0800. Please be sure to bring a copy to class on March 17, 2025.

Table 1	**Iron Deficiency Anemia**	**Thalassemia**	**Cobalamin (Vitamin B_{12}) Deficiency**	**Folic Acid Deficiency**
Etiology	May develop from inadequate diet intake, absorption, blood loss or hemolysis. Normal iron intake is usually enough to meet the needs of men and older women. It may be adequate for people with higher needs (ex: pregnant women, and menstruating)	Group of diseases involving inadequate production of Hgb, which decreases RBC production.	Caused by an absence of intrinsic factor.	Folic acid is needed for DNA synthesis leading to RBC formation and maturation.
Clinical Manifestations	May be asymptomatic but could have pallor changes, glossitis, chletitis, headache, and burning sensation of the tongue.	Cardiac complications, lung disease, hypertension, and endocrine problems	Tissue hypoxia, GI upset, weakenss, impaired cognition, ataxia, etc.	GI problems, dysphagia, diarrhea, neuro problems
Diagnostic Studies	Hemoglobin, Hematocrit, RBC, Serum Iron, Occult blood	RBC, Hbg, Iron, Bilirubin, B12	Hgb, Hct, RBC, Iron, MCV, bilirubin, B12	Serum folate levels, serum cobalamin
Drug Therapy	Iron, Vitamin C	Blood transfusion, Exjade, Deferoxamine	Cobalamin, B12	Replacement therapy with folic acid
		Thalassemia minor	Assess neuro	Teach patient to eat

Nursing Management	Treat underlying problem that is causing iron loss such as malnutrition, alcohol use, or poor iron absorption	does not require treatment because the body adapts to the reduction of normal Hbg	problems, reduce risk for injury, and protect the patient from burns, falls, and trauma.	foods high in folic acid

Table 2	**Anemia of Chronic Disease**	**Aplastic Anemia**	**Acute Anemia due to Blood Loss**	**Chronic Anemia due to Blood Loss**
Etiology	Chronic disease associated with underproduction of RBC and mild shortening or RBC survival	Due to autoimmune activity by autoreactive T lymphocytes.	Acute blood loss due to trauma, Sx, and problems that disrupt the vascular system	The effects of chronic blood loss are commonly due to depleted iron stores
Clinical Manifestations	Bleeding, cancer, infectious diseases, HF	Suppression of bone marrow elements, fatigue, dyspnea	SOB, hypotension, pain, shock, numbness	Poor renal function, SOB, weakness, fatigue, Jaundice
Diagnostic Studies	RBC, WBC, Iron, Folate, Cobalamin	Hgb, WBC, platelet values, RBC, bone marrow biopsy	RBC, Hgb, HCT	RBC, Hgb, HCT, BUN, Creatinine
Drug Therapy	Blood transfusions, EPO therapy	HSCT, blood transfusion, cyclosporine	Blood transfusion	Iron, blood transfusions,
Nursing Management	Identifying and correcting the cause of RBC deficiency	Removing the causative agent when possible and providing support until the pancytopenia resolves	Replace blood volume to prevent shock, promote coagulation to prevent further bleeding, find the source of the bleed	Identify the source and stopping of bleeding, pt may need iron supplements

Table 3	**Acquired Hemolytic Anemia**	**Hemochromatosis**	**Polycythemia**
Etiology	Results from hemolysis of RBC's from extrinsic factors. These factors include physical destruction, antibody reactions, and infectious agents	Iron overload disorder characterized by increased intestinal iron absorption	Production and presence of increased RBC. The increase can be so great that blood circulation is impaired because of the increased blood viscosity
Clinical Manifestations	Fatigue, Dyspnea, Infection, Pain	Fatigue, arthralgia, impotence, abdominal pain, and weight loss	Hypertension, hypervolemia, vertigo, tinnitus, dizziness, visual changes
Diagnostic Studies	RBC, WBC, Hgb, HCT	Serum iron, TIBC, Serum Ferritin, Liver biopsy	Hgb, HCT, RBC, bone marrow examination
Drug Therapy	Glucocorticoids, Rituximab	Iron-chelating drugs, deferoxamine, Deferiprone	Myelosuppressive agents such as Hydroxyurea, or busulfan
Nursing Management	General supportive care until the causative agent can be eliminated or at least made less injurious to the RBC's	Manage problems from organ involvement with the usual treatment for these problems	Assess pt's nutrition status, I/O, GI symptoms, and pain. Begin activity and drug therapy to decrease thrombus formation

In order to receive full credit (2H class time) for this assignment, it must be completed in its entirety by the due date/time assigned. Any assignment not completed in its entirety by the due date and time will result in missed class time and must be completed by the end of the semester to pass the course.