

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 B₁₂) Deficiency	Folic Acid Deficiency
Etiology	-body lacks sufficient Fe to produce hgb -leads to reduced O ₂ delivery to tissues	-inherited blood disorders that affect the bodies ability to produce hgb	-insufficient intake -malabsorption issues -genetics	-inadequate dietary intake of folate -alcoholism
Clinical Manifestations	-Fatigue -Weakness -pale skin and mucous membranes - SOB - Dizziness -cold extremities, - PICA	-fatigue -weakness -pale/yellow skin -bone deformities -splenomegaly -SOB	-pallor, fatigue,dizziness -glossitis -neuropathy -ataxia	-pallor, fatigue, weakness -glossitis -sob -dizziness -irritability -confusion -depression
Diagnostic Studies	-cbc -ferritin -transferrin	-cbc -hgb electrophoresis -genetic testing	-serum b12 levels -cbc -intrinsic factor antibodies test	-serum folate levels -cbc -homocysteine levels -stool occult blood tests
Drug Therapy	-supplemental iron	-blood transfusions -iron chelation therapy -bone marrow or stem cell transplant -folic acid -gene therapy	-b12	-folic acid supplements -vitamin c
Nursing Management	-promote O ₂ -manage fatigue -enhance nutritional intake -give Fe supplements -address underlying causes -pt education	-hx taking -physical exam of symptoms	-b12 therapy -dietary management -neuro sx man -pt education	-diet intake -menstrual hx -meds -chronic diseases -cravings (pica) -assess signs of hypoxia

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Table 2	Anemia of Chronic Disease	Aplastic Anemia	Acute Anemia due to Blood Loss	Chronic Anemia due to Blood Loss
Etiology	-chronic infections -inflammatory disorders -autoimmune disorders -CKD -impaired iron metabolism and reduced erythroiesis	-bone marrow fails to produce enough RBC, WBC, & platelets	-rapid loss of blood -leading to decreased O2 delivery to tissues	-on going, slow blood loss over time leading to iron deficiency anemia
Clinical Manifestations	-pallor -fatigue, dypnea, tachycardia -cold intolerance -signs of underlying diseases (joint swelling in RA, CKD)	-severe fatigue, pallor, weakness -frequent infections, fever & sore throat -easy bruising -petechiae -prolonged bleeding -SOB, dizzy, tachycardia	-signs of hypovolemia & shock -signs of anemia -active bleeding	-pallor -fatigue -dizziness -weakness -SOB & tachycardia -cold intolerance -koilonychia (spoon shaped nails) -brittle hair -glossitis -angular cheilitis (cracks at mouth corners)
Diagnostic Studies	-cbc -serum ferritin -serum iron and total iron binding capacity -erythropoietin levels Inflammatory markers	-cbc -bone marrow biopsy -reticulocyte count -serum iron & ferritin	-CBC -PT, INR, aPTT -blood typing and cross match -BMP and renal function tests -imaging	-cbc -serum ferritin & iron levels -total iron binding capacity -stool occult -endoscopy/ colonoscopy -OBGYN eval
Drug Therapy	-IV iron	-blood transfusion -bone marrow stimulant -immunosuppressive drug	-restore blood volume -IV fluids (NS, LR) -	-oral Fe supplements -vitamin c
Nursing Management	-symptom management -labs -dietary management -med education	-prevent infections -labs -O2	-stabilize the pt -stop bleeding -restore blood volume -monitor hypovolemic shock -O2 support -transfusion reactions	-monitor bleeding -I&O -sx management -avoid NSAIDS, ASA, anticoag's

Table 3	Acquired Hemolytic Anemia	Hemochromatosis	Polycythemia
Etiology	-RBC are destroyed prematurely due to immune reactions, infections, meds, mechanical damage	-excessive iron absorption & deposition in organs, leading to liver damage, DM, heart disease, joint pain -genetic or acquired	-increased number of RBC -thickened blood -higher risk of clotting, CVA, heart complications -primary or secondary
Clinical Manifestations	-fatigue, pallor, weakness -jaundice -dark urine -splenomegaly -tachycardia, dyspnea -petechiae -dyspnea -bruising	-fatigue -weakness -joint pain (arthropathy) -skin bronzing -DM sx -heart palpitations or arrhythmias	-headaches, dizziness -blurred vision, face flushing -ruddy complexion -generalized itching -parasthesia -SOB -angina
Diagnostic Studies	-CBC -peripheral blood smear -COOMS test -serum haptoglobin -bilirubin -LDH -UA	-serum ferritin -serum iron and total iron binding capacity -transferrin saturation -genetic testing -liver biopsy -MRI of liver and heart	-cbc -erythropoetin -bone marrow biopsy -SPO2 -ABGs -JAK2 mutation test
Drug Therapy	-steroids -immunosuppressants -anticoagulants	-iron chelation therapy -deferoxamine -deferasirox -deferiprone	-baby ASA -hydroxyurea -JAK2 inhib. -O2
Nursing Management	-preventing complications -managing sx -tx underlying cause	-reducing iron overload -prevent complications -educating the pt on lifestyle modifications	-preventing complications -sx management -reducing blood viscosity

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.