

AMSN 2022

Unit 7: Hematology- Red Blood Cell Disorders (Anemia)

Complete this worksheet and do the following:

-Place into the Unit 7: Hematology dropbox by March 21, 2022 at 0800 (1.5H).

-Have a copy for class on March 21, 2022.

Page 1	Iron Deficiency Anemia	Thalassemia	Cobalamin Deficiency	Folic Acid Deficiency
Etiology	<ul style="list-style-type: none"> Decreased RBC production Acute blood loss Chronic Increased RBC destruction Hereditary 	<ul style="list-style-type: none"> Inadequate production of normal hgb leading to decreased RBC Absent/reduced globulin protein 	<ul style="list-style-type: none"> Parietal cells of gastric mucosa secrete protein IF. Without IF, cobalamin will not be absorbed 	<ul style="list-style-type: none"> Chronic alcoholism Chronic hemodialysis Dietary deficiency leafy green citrus fruits Malabsorption syndromes
Clinical Manifestations	<ul style="list-style-type: none"> Pallor Glossitis Chilitis Headaches Paresthesia Burning sensation of tongue 	<ul style="list-style-type: none"> Asymptomatic Mild/mod anemia with microcytosis Mild splenomegaly Bronzed skin color Bone marrow hyperplasia 	<ul style="list-style-type: none"> Tissue hypoxia Sore red beefy and shiny tongue GI disturbance Neuromuscular issues like weakness, ataxia Several months to develop 	<ul style="list-style-type: none"> Stomatitis Cheilosis Dysphagia Flatulence Diarrhea Tissue hypoxia Develops insidiously
Diagnostic Studies	<ul style="list-style-type: none"> Hgb/Hct MCV Reticulocytes Serum iron Transferrin Ferritin Bilirubin Serum B12 Folate 	<ul style="list-style-type: none"> Hgb/Hct MCV Reticulocytes Serum iron Transferrin Ferritin Bilirubin Serum B12 Folate 	<ul style="list-style-type: none"> Hgb/Hct MCV Reticulocytes Serum iron Transferrin Ferritin Bilirubin Serum B12 Folate 	<ul style="list-style-type: none"> Hgb/Hct MCV Reticulocytes Serum iron Transferrin Ferritin Bilirubin Serum B12 Folate

Drug Therapy -include name, dosage, route, and nursing interventions	<ul style="list-style-type: none"> • Oral iron – 150-200mg 3-4 times a day. Take an hour before meals for best absorption • Parenteral iron – IM or IV. Take 2=3 months after hgb level return to normal 	<ul style="list-style-type: none"> • No specific drug therapies are effective • The body adapts to reduction of normal hemoglobin 	<ul style="list-style-type: none"> • Parenteral vit B12 – Oral/Sublingual up to 1000mcg/day Admin with meal to increase absorption 	<ul style="list-style-type: none"> • Replacement therapy 1mg/day PO • Pts with malabsorption or alcoholism 5mg/day PO. Eat foods high in folic acid
Nursing Management -include patient education	<ul style="list-style-type: none"> • ID and tx underlying cause • Drug therapy • Nutritional therapy • Transfusion of packed RBC 	<ul style="list-style-type: none"> • Blood transfusions • Exchange transfusions in conjunction with chelating agents that bind to iron 	<ul style="list-style-type: none"> • Assess neuro difficulties • Implement measures to reduce risk for injury from decreased sensitivity to heat and pain r/t neurologic impairment • Protect from falls, burns and trauma 	<ul style="list-style-type: none"> • Correct deficiency • Blood transfusion • Drug therapy • O2 therapy • Dietary and lifestyle changes

Page 2	Anemia of Chronic Disease	Aplastic Anemia	Acute Anemia due to blood loss	Chronic Anemia due to blood loss
Etiology	<ul style="list-style-type: none"> • Auto immune diseases • Cancer • HIV/AIDS • IBS • Crohn's 	<ul style="list-style-type: none"> • Autoimmune activity • Stem cell defect • Toxic injury to bone marrow stem cells 	<ul style="list-style-type: none"> • Hemolysis • Hemorrhage 	<ul style="list-style-type: none"> • Blood loss from ulcer • Family history
	<ul style="list-style-type: none"> • Fatigue 	<ul style="list-style-type: none"> • Fatigue 	<ul style="list-style-type: none"> • syncope 	<ul style="list-style-type: none"> • rapid

<p>Clinical Manifestations</p>	<ul style="list-style-type: none"> • Pallor • Lightheadedness • SOB • Tachycardia • Irritability • Angina 	<ul style="list-style-type: none"> • Dyspnea • Neutropenia • thrombocytopena 	<ul style="list-style-type: none"> • tachycardia with activity • orthostatic hypotension • low CVP and CO at rest • cool skin • shock • death 	<ul style="list-style-type: none"> weight loss • hypotension • dizziness • fatigue • SOB • pallor
<p>Diagnostic Studies</p>	<ul style="list-style-type: none"> • CBC • Reticulocyte • Ferritin • Serum iron • C-reactive protein • ESR 	<ul style="list-style-type: none"> • Hgb/Hct • MCV • Reticulocytes • Serum iron • Transferrin • Ferritin • Bilirubin • Serum B12 	<ul style="list-style-type: none"> • CBC • Sudden blood loss, lab values WNL for several days 	<ul style="list-style-type: none"> • CBC • Bone marrow biopsy
<p>Drug Therapy -include name, dosage, route, and nursing interventions</p>	<ul style="list-style-type: none"> • Oral iron - 150-200mg 3-4 times a day. • folic acid po 400 mcg/d • vit b12 po 500mcg/d • Take an hour before meals for best absorption 	<ul style="list-style-type: none"> • Cyclosporine oral 2.5 g per kg BID Can be taken with or without food 	<ul style="list-style-type: none"> • O2 • Iron 150-200mg 3-4 times a day. • Vasopressors are contraindicated 	<ul style="list-style-type: none"> • Oral iron - 150-200mg 3-4 times a day. • folic acid po 400 mcg/d • vit b12 po 500mcg/day
<p>Nursing Management -include patient education</p>	<ul style="list-style-type: none"> • Assess risk factors • Decrease fatigue • Adequate nutrition • prescription compliance • tissue perfusion 	<ul style="list-style-type: none"> • blood transfusions • med compliance • healthy diet • exercise • avoid people that are sick • dental visits • infection control 	<ul style="list-style-type: none"> • blood volume replacement RBC, platelets, plasma • stopping source of hemorrhage • IV fluids 	<ul style="list-style-type: none"> • Decrease fatigue • Adequate nutrition • Tissue perfusion • Med compliance • Watch for bleeding

Page 3	Acquired Hemolytic Anemia	Hemochromatosis	Polycythemia
Etiology	<ul style="list-style-type: none"> Physical destruction Autoimmune Toxins Infectious agents 	<ul style="list-style-type: none"> Gene mutation that controls iron your body absorbs from food you eat 	<ul style="list-style-type: none"> Change in the JAK2 gene which cases bone marrow cells to produce too many RBC
Clinical Manifestations	<ul style="list-style-type: none"> Fatigue Pallor Tachycardia SOB Dark urine Chills Backache 	<ul style="list-style-type: none"> Weakness Lethargy Increased skin pigmentation hair loss joint pains memory loss 	<ul style="list-style-type: none"> numbness tingling burning weakness in hands foot and legs feeling of fullness after eating unusual bleeding
Diagnostic Studies	<ul style="list-style-type: none"> Peripheral smear Serum bilirubin LDH Haptoglobin ALT 	<ul style="list-style-type: none"> Liver function Liver biopsy MRI to check for iron in liver or liver damage 	<ul style="list-style-type: none"> CBC Erythropoietin
Drug Therapy -include name, dosage, route, and nursing interventions	<ul style="list-style-type: none"> Oral steroids IV hydrocortisone Divided daily oral doses prednisone 	<ul style="list-style-type: none"> Deferasirox oral 125-500mg based on serum ferritin levels 	<ul style="list-style-type: none"> Hydroxyurea to slow production of RBC Aspirin to thin blood PO 81mg
Nursing Management -include patient education	<ul style="list-style-type: none"> Blood transfusions Surgery Blood and marrow stem cell transplant Lifestyle changes May not need treatment if condition does not worsen 	<ul style="list-style-type: none"> Removal of blood from the body on a regular basis Goal is to reduce iron levels to normal 	<ul style="list-style-type: none"> Apply cool compress or ice Elevation to increase circulation and prevent pooling of blood in joints ROM improves circulation

List 3 effects that aging has on the Hematologic System:

1. Decline in marrow cellularity
2. increased risk of myeloproliferative disorders and anemia
3. Decline in adaptive immunity