

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

**Complete the worksheet and submit in the Unit 7: Hematology dropbox by March 18, 2024 at 0800. Please be sure to bring a copy to class on March 18, 2024.**

Table 1	<b>Iron Deficiency Anemia</b>	<b>Thalassemia</b>	<b>Cobalamin (Vitamin B<sub>12</sub>) Deficiency</b>	<b>Folic Acid Deficiency</b>
<b>Etiology</b>	Is developed from an inadequate diet intake and malabsorption, blood loss, and hemolysis.	Is a group of disease involving inadequate production of hgb, which then causes a decrease of RBC, cause by the reduction of the globulin protein (usually common in pt living near Mediterranean sea)	Can be cause when we don't have iF and the body doesn't absorb cobalamin. Common in those who have had a GI surgery, small bowel resection, crohns disease, and celiac disease	Folic acid is essential for DNA synthesis, lack of folic acid leads to rbc formation and maturation
<b>Clinical Manifestations</b>	No signs in the early stages, but as it become chronic s/s will be pallor, glossitis, cheilitis, headache, and a burning sensation of the tongue	Asymptomatic when minor Will be anemia with moderate to brown skin, bone marrow hyperplasia and jaundice will occur when it is mild-moderate	Sore, red, beefy colored shiny tongue N/V, anorexia, abdominal pain Neuromuscular issues such as weakness, parathesis of the hands and feet	Stomatitis, cheilosis, dysphagia, flatulence and diarrhea
<b>Diagnostic Studies</b>	Stool occult, endoscopy, colonoscopy, h&h, and iron levels, and sometimes a bone biopsy	Bone marrow biopsy is done to help determine d/x.	Serum cobalmin levels (will be low) Serum folate levels (WNL)	Serum folate levels (will be low <5) Serum cobalamin levels (WNL)
<b>Drug Therapy</b>	Oral iron supplement, 100-200mg daily and should be taken with meals	Blood transfusions, oral deferasirox, deferiprone, or Iv subcutaneous deferoxamine	Cobalamin, parenteral vitamin B12, intranasal cyanocobalamin, topical treatment for 2 weeks, then goes into weekly unit hgb wnl then goes to monthly	Replacement therapy with a dose of 1-5mg/ day PO
<b>Nursing</b>	Is to identify and treat the underlying	Drug therapy with blood transfusions	Assessing for any neurological	Eating foods that are high in folic acid is

<b>Management</b>	cause, drug therapy and as well as packed rbc transfusion	can be done if their hgb is less than 7	impairment that is not corrected by the replacement therapy, protecting the patient from heat, pain, and injury	important.
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Table 2	<b>Anemia of Chronic Disease</b>	<b>Aplastic Anemia</b>	<b>Acute Anemia due to Blood Loss</b>	<b>Chronic Anemia due to Blood Loss</b>
<b>Etiology</b>	Is an underproduction of rbc and mild shortening of rbc usually caused by cancer, autoimmune and infectious disorders, as well as chronic inflammation.	Is caused by autoimmune activity by autoreactive t lymphocytes. The cytotoxic t cells target and destroy the pts own hematopoietic stem cells. Causes are injury to the bone cell, or an inherited stem cell defect	Is due to trauma, surgery complication, problems that disrupt the vascular integrity. The amount of rbc available to carry O <sub>2</sub> is decreased.	Can be caused by a bleeding ulcer, hemorrhoids, postmenopausal blood loss, which is caused by the depletion in iron stores.
<b>Clinical Manifestations</b>	Fatigue, lightheadedness, pallor, chest pain.	Fatigue, dyspnea, neutropenia, petechiae, bruising, nosebleeds	s/s depend on blood loss; if 10% usually no s/s besides vasovagal syncope. If 20% increase hr with exercise and slight hypotension. Is 30% postural hypertension. 40% bp and CO is below normal at rest. If 50% shock and lactic acidosis.	S/s can vary and depend but it similar with those who have acute anemia.
<b>Diagnostic Studies</b>	Increased iron and increased serum ferritin Folate and cobalamin blood levels (WNL)	Hgb, wbc, platelet, (will all be low) Serum iron and TIBC will be increased with decreased rbc Bone marrow aspiration	After the plasma volume is replaced, rbc, h&h will be decreased which reflects the blood loss	Decreased rbc, h&h
<b>Drug Therapy</b>	Severe: blood transfusions, (not for long term treatment), EPO is used if caused by renal disease	Immunosuppressive therapy with antithymocyte, and cyclosporine And eltromopag (increases platelet)	Blood transfusions, if large amount is lost then whole blood, platelet, and plasma can be given, IV fluids can be given as well.	Blood transfusions along with iron supplements.
		Removing the cause,	Replacing blood	Identify the source

<b>Nursing Management</b>	It is important that we treat and correct the underlying problem	provide supportive care until the pancytopenia resolve.	volume to prevent the patient from going into shock. Promoting coagulation and preventing further bleeding and injuries and stopping the blood loss.	of the bleeding and stopping it.
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Table 3	<b>Acquired Hemolytic Anemia</b>	<b>Hemochromatosis</b>	<b>Polycythemia</b>
<b>Etiology</b>	Hemolysis of rbc from extrinsic factor, physical destruction, antibody reactions, infectious agents, and toxins.	Is an overload disorder, increase intestinal iron absorption, usually caused by a genetic defect.	Primary : Increased rbc and wbc, platelet, leading to enhance blood viscosity and volume. Secondary: hypoxia stimulates the kidneys to make EPO and stimulate rbc production.
<b>Clinical Manifestations</b>	Tired, weakness, enlarged spleen, and purpura lesions	s/s don't develop until age 40 in men and 50 for women, fatigue, abdominal pain, weight loss, later s/s: bronzing of the skin, heart problems arthritis, enlarged spleen and liver.	Headache as well as vertigo is usually the first s/s to appear along with dizziness, tinnitus, and visual changes.
<b>Diagnostic Studies</b>	Blood test to look at RBC and platelet count.	Serum iron, TIBC, serum ferritin (elevated) MRI (liver, cardiac iron is measured) Liver biopsy shows the degree of organ damage	Bone marrow biopsy EPO levels ( decreased) H&H, rbc (elevated)
<b>Drug Therapy</b>	Hydration, electrolyte replacement, corticosteroids can also be given for these pts .	Iron chelation drugs, deferoxamine chelates can help remove the iron that is being build up in the kidneys.	Hydration therapy is important because it can help decrease blood viscosity.
<b>Nursing Management</b>	Finding the causative agent and treated	Treatment may be based on the organs that are involved.	Since we are giving a lot of fluids we need to monitor the patients intake and output along with vital signs and daily weights to monitor for fluid overload.

***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.***