Module 7 Exam Review

*Chapt 47*

1. What is Passive Immunity? How do we obtain it? What are the 2 types of passive immunity and how are each obtained? NO ALL THE TYPES AND WHAT THEY DO AND HOW WE GET IT!

Passive immunity is the protection against disease provided by antibodies from an external source, rather than the body producing them. It is temporary and doesn't require the immune system to actively produce antibodies.

There are two types of passive immunity:

1. **Natural Passive Immunity**: This occurs when antibodies are transferred naturally, such as from mother to baby through the placenta or breast milk.
2. **Artificial Passive Immunity**: This is obtained through the administration of antibodies from an external source, such as through an injection of immunoglobulins or antiserum.

Both types provide immediate protection, but the immunity fades over time.

1. What is Active Immunity? How do we acquire artificially acquired active immunity? What are the 2 types of passive immunity and how are each obtained? NO ALL THE TYPES AND WHAT THEY DO AND HOW WE GET IT!

Active immunity refers to the protection against disease that results from the immune system’s response to exposure to pathogens or antigens. It can be acquired artificially through vaccination, where weakened or inactivated pathogens stimulate the immune system to produce antibodies without causing disease.

There are two types of passive immunity: natural and artificial. Natural passive immunity occurs when antibodies are transferred from mother to child, such as through the placenta or breast milk. Artificial passive immunity is obtained by receiving pre-formed antibodies, usually through an injection, to provide immediate protection against specific diseases.

1. What clients would not be given vaccines? (Who would be contraindicated)

Clients who would not be given vaccines are those with contraindications, which may include individuals with severe allergies to vaccine components, certain medical conditions (e.g., immunocompromised individuals), or a history of adverse reactions to previous doses of the same vaccine. Additionally, pregnant women and infants below a certain age may be excluded depending on the specific vaccine. Each vaccine has specific guidelines to ensure it is safe for all recipients.

1. Pregnancy and attenuated vaccine (would you give to a pregnant person or would you not?; and if not what are the perimeters regarding pregnancy and live attenuated vaccines; if yes what would you educate the pregnant person regarding post vaccination

Live attenuated vaccines (LAVs) are generally not recommended for pregnant individuals due to the potential risks to the developing fetus. The primary concern is that these vaccines contain weakened forms of the virus, which, in rare cases, may cause illness.

However, if a pregnant person must receive a LAV due to a high-risk situation, it is crucial to evaluate the specific vaccine, the timing of vaccination, and the health status of the pregnancy.

For individuals who are not given a live vaccine during pregnancy, education should focus on the importance of avoiding exposure to the virus, monitoring for any symptoms after vaccination, and seeking immediate medical advice if adverse reactions occur. Non-live vaccines are usually considered safer during pregnancy.

1. Review Aspirin and Reye syndrome risks
2. Educate your pregnant patient on the varicella vaccine. When can she have it and what can she expect from it?

The varicella vaccine should not be given during pregnancy. It is recommended for women to get vaccinated before becoming pregnant if they are not immune to chickenpox. If a woman is pregnant and not immune, she should wait until after childbirth to receive the vaccine. After vaccination, some mild side effects like soreness at the injection site or a slight fever may occur. The vaccine is highly effective in preventing varicella and its complications. It’s important to avoid pregnancy for at least 1 month after receiving the vaccine.

1. What is antivenin? What’s the time periods to administer antivenin and what are the time periods to monitor for adverse reactions after administration

Antivenin is a medication used to treat venomous bites or stings, typically from snakes, spiders, or other poisonous creatures. It works by neutralizing the venom in the body. The antivenin should be administered as soon as possible after the bite, ideally within 4 hours for maximum effectiveness, though it can still be useful up to 24 hours after envenomation. After administration, patients should be monitored for adverse reactions for at least 1-2 hours, as allergic or anaphylactic responses can occur.

***Vaccines to pay close attention to:***

Meningococcal  
Meningococcal B  
Pneumococcal  
Measles  
HPV  
Varicella  
Zoster  
Rabies  
Diphtheria, tetanus, toxoids, and acellular pertussis  
Rh immune globulin- RIG, IGIV  
Tetanus  
Antivenin

*Chapt 48*

1. What is pernicious anemia? What are the signs and symptoms? What are the treatments for pernicious anemia and any specific patient education? Which group of people is at the most risk for developing pernicious anemia?

**Pernicious Anemia: Summary**

**Definition:** Pernicious anemia is a form of vitamin B12 deficiency caused by the body’s inability to absorb B12 due to a lack of intrinsic factor, often related to autoimmune damage to stomach cells.

**Signs and Symptoms:**

* Fatigue, weakness
* Pale or jaundiced skin
* Neurological issues (numbness, tingling in extremities, balance problems)
* Glossitis (inflamed tongue)
* Cognitive difficulties (memory loss, confusion)

**Treatments:**

* **Vitamin B12 supplementation:** Given via injections or high-dose oral supplements.
* **Dietary advice:** Include B12-rich foods like meat, eggs, and dairy.
* Regular monitoring of B12 levels is essential.

**Patient Education:**

* Stress the importance of lifelong treatment to prevent complications like irreversible nerve damage.
* Educate about recognizing symptoms of deficiency.
* Advise those with dietary restrictions (e.g., vegans) to supplement B12.

**At-Risk Groups:**

* Older adults (reduced intrinsic factor production with age)
* People with autoimmune diseases or gastrointestinal disorders (e.g., Crohn's disease, celiac disease)
* Those with a vegan or vegetarian diet (low B12 intake)
* Individuals with a family history of pernicious anemia

This summary reflects a balance between medical detail and clarity, targeting an intermediate understanding of the condition.

1. What is epoetin alfa used for? And what as the nurse would you be monitoring closely after administration of epoetin alfa?

**Epoetin alfa** is a synthetic form of erythropoietin used to treat anemia, particularly in patients with chronic kidney disease (CKD), chemotherapy-induced anemia, or those preparing for surgery with significant blood loss. It stimulates red blood cell production.

As a nurse, monitor **hemoglobin levels** to ensure they do not exceed safe thresholds, as excessive increases can raise the risk of thromboembolic events and hypertension. Additionally, observe for side effects such as **elevated blood pressure, signs of blood clots (e.g., swelling or pain in the limbs), and iron levels**, as adequate iron stores are necessary for effective treatment. Regular blood pressure and lab assessments are critical.

1. What can you as the nurse suggest the patient to do with ferrous to help with the absorption rate?

To enhance the absorption of ferrous (iron), you as the nurse can suggest the patient take it with vitamin C-rich foods or drinks, such as orange juice, and on an empty stomach if tolerated. Avoid taking it with calcium-rich foods, dairy, or antacids, as they can inhibit absorption.

**Explanation:** Vitamin C improves the solubility of iron in the stomach, enhancing its uptake, while calcium and certain compounds in dairy and antacids bind with iron, reducing its bioavailability. Taking iron on an empty stomach maximizes its absorption, although it may cause gastrointestinal discomfort in some patients.

1. How does Filgrastim work? What does it do?

Filgrastim is a medication that stimulates the production of neutrophils, a type of white blood cell essential for fighting infections. It works by mimicking the action of naturally occurring granulocyte colony-stimulating factor (G-CSF), promoting the bone marrow to produce and release neutrophils into the bloodstream. It is commonly used to prevent or treat neutropenia (low neutrophil levels), often caused by chemotherapy or bone marrow disorders.

1. What is Megaloblastic anemia? How is it treated? What are the signs and symptoms?

**Megaloblastic Anemia: Overview and Management**

**Definition**:  
Megaloblastic anemia is a blood disorder caused by impaired DNA synthesis, leading to the production of abnormally large and immature red blood cells (megaloblasts) in the bone marrow. It commonly results from deficiencies in vitamin B12, folate, or other factors affecting DNA synthesis.

**Causes**:

* Vitamin B12 deficiency (e.g., due to pernicious anemia or dietary insufficiency).
* Folate deficiency (e.g., from poor diet, alcoholism, or certain medications).

**Signs and Symptoms**:

* Fatigue and weakness.
* Pale or jaundiced skin.
* Shortness of breath and dizziness.
* Neurological symptoms (e.g., numbness, tingling, or balance issues) in B12 deficiency.
* Glossitis (inflamed tongue) and mouth ulcers.

**Treatment**:

* Vitamin B12 supplementation (oral or intramuscular) for B12 deficiency.
* Folate supplementation for folate deficiency.
* Addressing underlying causes (e.g., improving diet or treating malabsorption issues).

Early diagnosis and appropriate treatment typically resolve symptoms and prevent complications.

1. What other class of medication if given with Oral iron can decrease absorption of the oral iron supplements?

Co-administration of antacids with oral iron supplements can decrease iron absorption. This occurs because antacids raise gastric pH, reducing the solubility of iron, which is best absorbed in an acidic environment. To avoid this interaction, iron supplements should be taken 2 hours before or 4 hours after antacids.

1. What is iron deficiency anemia? What are the signs and symptoms? And treatments? What are the adverse reactions? What should you as the nurse monitor for with a patient who is taking iron supplements, and diet recommendations to combat constipation

**Iron Deficiency Anemia (IDA)** is a condition where the body lacks sufficient iron to produce healthy red blood cells, leading to reduced oxygen transport.

**Signs and Symptoms:**

* Fatigue, weakness
* Pale skin
* Shortness of breath
* Dizziness
* Brittle nails or hair loss

**Treatments:**

* Oral iron supplements (e.g., ferrous sulfate)
* Dietary adjustments (iron-rich foods like red meat, leafy greens, fortified cereals)
* Intravenous iron in severe cases

**Adverse Reactions:**

* Gastrointestinal issues (nausea, constipation, diarrhea)
* Dark stools
* Rarely, allergic reactions (IV iron)

**Nursing Considerations:**

* Monitor hemoglobin and hematocrit levels
* Assess for side effects (especially GI distress)
* Educate about proper administration (e.g., taking iron with vitamin C for better absorption)

**Diet for Constipation:**

* High-fiber foods (fruits, vegetables, whole grains)
* Adequate hydration
* Regular physical activity

By balancing medication management and dietary guidance, IDA can be effectively treated while minimizing side effects like constipation.

***Meds to pay close attention to:***

Filgrastim

Folic acid

Leucovorin

Epoetin alpha

Cyanocobalamin or Vitamin B12

*Chapt 50*

1. What is important to review with patients who are receiving oral chemotherapy. Review what interventions the nurse would utilize if stomatitis appears or oral mucositis.

When reviewing oral chemotherapy with patients, emphasize proper medication administration, potential side effects, and the importance of adherence to treatment. If stomatitis or oral mucositis develops, nurses should assess the severity, encourage oral hygiene with a soft toothbrush, recommend rinsing with saline or bicarbonate solutions, and avoid irritants like alcohol-based mouthwash or spicy foods. Pain management, dietary modifications, and the use of prescribed topical agents or medications may also be necessary. Educating patients on recognizing symptoms early and maintaining communication with their healthcare team is critical for effective management.

1. Review interventions for combating anorexia in patients who are receiving antineoplastic drugs.

**Summary:**

The review examines strategies to manage anorexia in patients undergoing antineoplastic treatment. Key interventions include nutritional counseling, pharmacological therapies (e.g., appetite stimulants like megestrol acetate), and non-pharmacological methods such as psychosocial support and lifestyle modifications. It highlights the multifactorial causes of anorexia in this population, including drug side effects and tumor-related factors, and emphasizes the need for tailored approaches to improve nutritional status, treatment adherence, and overall quality of life.

**Explanation:**

The summary provides a concise overview focusing on the core elements of the review: the types of interventions (nutritional, pharmacological, and psychosocial), the underlying causes of anorexia, and the broader goals of these strategies. This intermediate-level scope includes enough detail to convey the complexity of the issue without overwhelming technical jargon, making it suitable for an informed but non-specialist audience.

1. Review signs and symptoms of thrombocytopenia during chemotherapy administration

Thrombocytopenia during chemotherapy refers to a reduced platelet count, which can lead to bleeding and bruising. Symptoms include easy bruising, prolonged bleeding from cuts, petechiae (small red or purple spots on the skin), nosebleeds, and heavy menstrual periods. It may also cause fatigue and weakness due to decreased oxygen delivery. Monitoring platelet levels and taking preventive measures, like avoiding trauma or using soft toothbrushes, are essential to managing this condition.

1. Review all Infection control practices to educate and be aware of during chemo therapy administration (specifically precautions for the nurse and precautions for the patients and families during the administration of the chemo)

When administering chemotherapy, infection control is crucial for both nurses and patients. Nurses should follow strict hygiene protocols, including wearing gloves, masks, and gowns, to prevent contamination. They must also ensure the environment is sanitized and dispose of all chemotherapy-related waste properly.

For patients and families, it's important to minimize exposure to infections. This includes maintaining good personal hygiene, avoiding crowds, and ensuring that caregivers are healthy before interacting with the patient. Family members should be educated on the signs of infection and encouraged to seek medical attention if symptoms arise. Regular handwashing and sanitizing surfaces are key practices.

In essence, infection control during chemotherapy focuses on preventing exposure to harmful germs for both caregivers and patients, ensuring safety and reducing infection risks.

1. What is thrombocytopenia? What are the signs and symptoms?

Thrombocytopenia is a condition characterized by a low platelet count in the blood, which can impair blood clotting. It can result from various causes, including bone marrow disorders, infections, or certain medications.

Signs and symptoms may include easy bruising, prolonged bleeding from cuts, spontaneous nosebleeds, and small red or purple spots on the skin (petechiae). In severe cases, it can lead to internal bleeding, which is life-threatening.

*\*\*\* This is not all inclusive be sure to read your chapts\*\*\**