**NAME: RASAQ NASIRAT OMOLARA**

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**COURSE TITLE: MEDICAL SURGICAL NURSING II**

**COURSE CODE: NSC 306**

**QUESTION 1:** IDENTIFY AND BRIEFLY EXPLAIN 5 PRIMARY IMMUNODEFICIENCY DISORDES

1. **CONGENITAL NEUTROPENIA SYNDROMES:** Congenital neutropenia syndromes are a group of rare disorders present from birth that are characterized by low levels of neutrophils (a type of white blood cells necessary for fighting infection. It is also called congenital agranulocytosis. Generally, mutations that result in congenital neutropenia affect the development, lifespan or function of neutrophils. Congenital neutropenia syndromes are inherited through autosomal dominant and X-linked inheritance patterns. People with congenital neutropenia experience bacterial infections early in life such as inflammation of the umbilical cord, abscesses or boil on the skin, oral infections and pneumonia.
2. **HYPER IMMUNOGLOBULIN E SYNDROMES:** Many different syndromes are known to lead to high levels of an antibody called immunoglobulin E or IgE. Collectively these conditions are called hyper-IgE syndromes. Hyper-IgE is a hereditary disorder characterized by recurring boils, sinus and lung infections. Severe rash appear during infancy and abscesses form in the skin, joints, lungs or other organ. Blood test confirms the diagnosis. Treatment involves giving antibiotics to prevent or treat infections, creams or drugs to relieve the rash and drug that modify the immune system.
3. **LEUKOCYTE ADHESION DEFICIENCY (LAD):** Leukocyte adhesion deficiency is an inherited immune disorder in which immune cells called phagocytes are unable to move to the site of an infection to fight off invading pathogens. Individual with LAD commonly suffer from bacterial infections beginning in the neonatal period. Infections such as omphalitis, pneumonia, gingivitis, and peritonitis are common and usually life threatening due to the inability to destroy invading pathogens. This disease impairs normal immune system function and result in autoimmunity, recurrent infections, poor wound healing and an increased risk of lymphoma. LAD is caused by a mutation in the gene ITGB2, which provides instructions for the phagocyte surface molecule CD18. Treatments for LAD include antibiotics to prevent and treat infection and in some cases, bone marrow transplant.
4. **SEVERE COMBINED IMMUNODEFICIENCY (SCID):** Severe combined immunodeficiency is an inherited primary immunodeficiency disease that typically presents in infancy results in profound immunodeficiency condition resulting in a weak immune system that is unable to fight off even mild infections. SCID is caused by genetic defects that affects the function of T cells. Depending on the type of SCID, B cells and natural killer cells can also be affected. These cells play important roles in helping the immune system in fighting bacteria, viruses and fungi that cause infections. The affected infants will often die within the first year of life. Symptoms include severe respiratory infections, poor growth, rashes that look like eczema, chronic diarrhea and recurrent thrush in the mouth.

**QUESTION 2:** IDENTIFY AND BRIEFLY EXPLAIN 2 SECONDARY IMMUNODEFICIENCY DISORDER.

1. **LEUKEMIA:** Leukemia is cancer of forming blood tissues including bone marrow hindering the body’s ability to fight infection. It is a group of blood cancers that usually begin in the bone marrow and result in high numbers of abnormal blood cells. A combination of genetic factors and environmental (non-inherited) factors are believed to play a role.

**Sign and symptoms:** Fatigue, bruising, fever, chill, vomiting, seizure, night sweat, pain in the bones or joints, enlarged spleen or liver, weight loss, swollen lymph nodes, anemia, dyspnea, pallor, e.t.c.

**Risk factors:** Smoking, exposure to radiation or certain chemical, family history of leukemia, genetic disorder like down syndrome, prior chemotherapy, e.t.c

**Treatment:** Chemotherapy, radiation, bone marrow transplant, targeted therapy, e.t.c.

1. **VIRAL HEPATITIS:** Viral hepatitis is the inflammation of the liver due to viral infection. The most common causes of the viral hepatitis are the five unrelated hepatotropic viruses hepatitis A, B, C, D and E. Other viruses can also cause liver inflammation, including cytomegalovirus, Epstein-Barr virus and yellow fever.

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| Viral hepatitis | Mode of transmission | Incubation period | Higher risk group | Sign and symptoms | Prevention |
| Hepatitis A | 1. Fecal-oral 2. Poor sanitation 3. Waterborne 4. Foodborne 5. Oral-anal contact | 2-6 week | 1. Traveller 2. Gay 3. Iv drug user 4. Day care staffs 5. Health personnel | Headache, malasia, fatigue, anorexia, fever, jaundice, dark urine, tender liver | Personal hygiene, immunization |
| Hepatitis B | 1. Sexual contact 2. Blood transfusion 3. Mother to neonate | 28- 160 days | 1. Unvaccinated people 2. Gays 3. Iv drug users 4. STIs | Rashes, abdominal pain, anorexia, arthralgia, dsypepsia, aching, malaisia, | 1. Screening of donor blood 2. Use of disposable syringe 3. Infection control (PPE) |
| Hepatitis c | 1. Mother to child 2. Multiple sexual partner 3. Blood transfusion | 15-160 days | 1. Recipient of blood and organ product 2. Hemodialysis patient 3. Health personnal 4. Iv drug user | It usually remain asymptomatic for long time | 1. Avoid alcohol 2. Screening of blood donor |
| Hepatitis D | Similar to hepatitis B | -------- | Similar to hepatitis B | Similar to hepatitis B | Similar to hepatitis B |
| Hepatitis E | 1. Fecal- oral route 2. Contaminated water 3. Poor sanitation | 15-65 days | Similar to Hepatitis A | Similar to hepatitis A | Personal hygiene (hand washing) |