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SECTION : A

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COURSE TITLE : HEMATOLOGY

QUESTION :: EXPLAIN the following :

1) Leukopenia ::

It is derived from a Greek words (Leuko) meaning “white”, and (Penia) meaning “deficiency” is a decrease in the number of leukocytes. Found in the blood, they are the white blood cells, and are the body’s primary defense against infection. Thus Leukopenia places individuals at increased risk of infection.

Symptoms may include mouth or skin sores, sore throat, cough, trouble breathing, feeling light-headed, fever, chills or body aches.

Examples include lupus and rheumatoid arthritis. Birth disorder :these may lead to Leukopenia. Also examples include Kostmann syndrome and Myelokthexis.

2) Lymphocytosis ::

Lymphocytosis results from increased numbers of Lymphocytes in your blood Lymphocytes are a type of white blood cell. They play an important role in your immune system, helping your body fight off infection. High Lymphocytes blood levels indicate your blood dealing with an infection or other inflammatory condition.

Lymphocytosis or a high Lymphocyte count, is an increase in white blood cells called Lymphocytes. Lymphocytes help fight off diseases, so it’s normal to see a temporary increase after an infection.

Causes of absolute Lymphocytosis include : acute viral infections, such as infection of mononucleosis (glandular fever), hepatitis and Cytomegalovirus infection. Other acute infections such as Pertussis, some protozoal infections, such as toxoplasmosis and Trypanosomiasis (Chagas disease).

3) Lymphopenia ::

A condition in which there is a lower than normal number of Lymphocytes (a type of white blood cell). Also called Lymphocytic Leukopenia and lymphocytopenia.

Examples include infectious diseases, such as AIDs ; blood disease, such as alpha anemia ; and inherited diseases, such as Wiskott-Aldrich syndrome in the blood.

4) **Basophilla ::**

It is the condition of having greater than 200 basophils/uL in the venous blood. Basophils are the least numerous of the myelogenous cells, and it is rare for their numbers to abnormally high without changes to the blood components.

A few types of conditions can lead to Basophilla : like Myeloproliferative disorders – conditions that cause the bone marrow to make too many white blood cell.

5) **Nutrophelia ::**

It is an increase in circulating neutrophils above that expected in a heart individual of the same age, sex, race, and physiological status. This represents an increase in neutrophils count above $7.5 \times 10^9/L$ and is one of the most frequently observed changes in the FBC.

Causes of Nutrophelia ::

Some bacterial infections do not cause Nutrophelia. For example, typhoid fever cause Leukopenia, neutrophenia or both. Other bacterial infections that are known to cause neutrophenia include Staphylococcus aureus, brucellosis, tularemia, rickettsia and leishmaniasis.

6) **Thrombocytosis ::**

It is a condition in which there is an excessive number of platelets in the blood. Platelets are blood cells in plasma that stop bleeding by sticking together Rob form clot. Too many platelets can lead to certain conditions, including stoke, heart attack or a cloth in the blood vessels.

Examples of conditions having reactive Thrombocytosis include inflammatory infectious diseases, iron deficiency, hemorrhage, endocrinopathies, and neoplasia.

7) **Thrombocytopenia ::**

It is a condition in which you have a low blood platelets count in the blood. Platelets (Thrombocytes) are colorless blood cells that help blood clot. Platelets stop bleeding by clumping and forming plugs in blood vessel injuries.

Some rare and serious conditions can cause a low platelets count. Two examples i.e Thrombotic thrombocytopenia purpura (TTP) and disseminated intravascular coagulation (DIC). TTP is a rare blood condition.

8) **Polycythemia ::**

It refers to an increase in the number of red blood cells in the body. In this extra cells cause the blood to be thicker, and this in turn increases the risk of other health issues, such as blood clots.

In Polycythemia there is usually an increase in other blood elements as well. For example, the number of red cells and often also the number of white blood cells and platelets are increased, and the spleen usually is enlarged.

9) **Anemia ::**

Anemia is a condition in which you lack enough healthy red blood cells to carry adequate oxygen to your body's tissue. Having anemia can make you feel tired and weak. There are many forms of anemia, each with its own cause. Anemia can be temporary or long term, and it can range from mild to severe.

Some forms of anemia, such as thalassemia or sickle cell anemia, which can be inherited through pregnancy. Problems with bone marrow such as lymphoma, leukemia, myelodysplasia, myeloma, or aplastic anemia.

10) **Leukemia ::**

Leukemia also spelled leukaemia, is a group of blood cancers that usually begins in the bone marrow and result in high numbers of abnormal blood cells. These blood cells are not fully developed and are called blasts or leukemia cells.

Symptoms may include bleeding and bruising, feeling tired, fever, and an increased risk of infections. These symptoms occur due to a lack of normal blood cells.

Risk factors include smoking, ionizing radiation, some chemicals (such as benzene), prior chemotherapy and Down syndrome.

There are four types of leukemia - acute lymphoblastic leukemia (ALL), acute myeloid leukemia (AML), chronic lymphocytic leukemia (CLL) and chronic myeloid leukemia (CML)- as well as a number of less common types.

11) **Reticulocytosis ::**

Reticulocytosis is a condition where there is an increase in reticulocytes, immature red blood cells. It is commonly seen in anemia. They are seen on a blood film when the bone marrow is highly active in an attempt to replace red blood cell loss such as hemolytic anemia, hemorrhage.

THE END

THANK YOU.

