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LEUKOPENIA

Leukopenia is a condition where a person has fewer white blood cells in their bloodstream than they should. Leukopenia is diagnosed with a blood test called a complete blood count or CBC.

A healthy white blood cell count is between 3,500 and 11,000 white blood cells per microliter. A person with leukopenia may have fewer than 3,500 white blood cells per microliter.

White blood cells are made in the bone marrow and are critical for the immune system. Having too few of them means the body is less able to fight off infections and diseases.

There are five types of white blood cells. Each helps to protect the body from a different kind of infection:

Neutrophils: These make up 55 to 70 percent of total white blood cells. They help fight off fungal and bacterial infections.

Lymphocytes: These are the second most common type of white blood cell. They protect the body from viral infections.

ymphopenia A condition in which there is a lower-than-normal number of lymphocytes (a type of white blood cell) in the blood. Also called lymphocytic leukopenia and lymphocytopenia

Basophils: These are the least common type of the white blood cells. They are involved in inflammatory reactions to allergens.

Monocytes: These are the largest of the white blood cells. They play a role in fighting off bacteria, fungi, and viruses. They also help mend tissue that has been damaged by inflammation.

Eosinophils: These fight parasites and play a role in allergic reactions and conditions, such as asthma.

There are five kinds of leukopenia, each one corresponding to the type of white blood cell that is affected.

2]LYMPHOPENIA

lymphopenia A condition in which there is a lower-than-normal number of lymphocytes (a type of white blood cell) in the blood. Also called lymphocytic leukopenia and lymphocytopenia

Bladder Cancer Treatment Health Professional Version

Bladder cancer treatment options depend on if it is nonmuscle or muscle invasive and may include surgery, BCG, chemotherapy, and targeted therapy. Get detailed information about the diagnosis and treatment of newly diagnosed and recurrent bladder cancer in this summary for clinicians.

Childhood Hematopoietic Cell Transplantation

Childhood hematopoietic cell transplantation involves the infusion of blood stem cells into a patient to reconstitute the blood system. Get detailed information about autologous and allogeneic transplant, HLA matching, preparative regimens, and complications in this summary for clinicians

Early Clinical Trial Results of New Targeted Ovarian Cancer Therapy

While ovarian cancer is fairly uncommon, comprising 1.3 percent of new cancer diagnoses in the U.S., the disease is actually the fifth leading cause of cancer-related deaths in U.S. women.

3LYMPHOCYTOSIS

Lymphocytosis is a condition that often results from your immune system working to fight off an infection or other disease. There is an increase in white blood cells with this condition. Though it cannot be prevented, lymphocytosis can be treated by caring for the underlying caCauses

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. Many underlying medical conditions can cause lymphocytosis.

High lymphocyte blood levels indicate your body is dealing with an infection or other inflammatory condition. Most often, a temporarily high lymphocyte count is a normal effect of your body’s immune system working. Sometimes, lymphocyte levels are elevated because of a serious condition, like leukemia.

Your doctor can order specific diagnostic tests to help pinpoint the cause of your lymphocytosis. These tests may include other laboratory tests to rule out infections or tests examining other body tissues, like bone marrow biopsy and looking at your blood under a microscope.use. symptoms of lymphocytosis

Lymphocytosis itself does not cause symptoms. However, you may experience symptoms from the underlying cause of lymphocytosis. Depending on the cause, symptoms may range from no symptoms to severe.

4] BASOPHILIABasophilia

Basophilia generally indicates the existence of another underlying medical condition.

In healthy individuals, basophils account for a minimal amount of the body’s cell population. However, people with basophilia have an abnormally high amount of basophils.

Basophils are a type of white blood cell produced in the bone marrow. White blood cells help the body fight infections.

A high level of white blood cells can indicate an immune response in the body, which protects the body from infections and other problems. However, when a person has basophilia, the increase in white blood cells may be due to more serious causes.

Basophilia rarely exists independently and most often indicates the presence of another condition.

ses and risk factors

The most common causes of basophilia include:

infections

allergies

disorders and diseases characterized by chronic inflammation

myeloproliferative disorders

Infections

Infections often trigger an inflammatory response in the body, which may make a person more likely to develop basophilia.

However, developing basophilia as a result of an acute infection or illness is rare. Certain diseases, including chicken pox and tuberculosis, may make a person more likely to develop basophilia.

Allergies

Allergies and allergic reactions to foods and drugs can cause basophilia. The severity of the allergy or the response may correlate with the severity of the basophilia.

Chronic inflammation

Many disorders and diseases are directly related to chronic inflammation. A person with a condition characterized by inflammation may be more likely to develop basophilia.

Conditions that cause chronic inflammation include:

rheumatoid arthritis

inflammatory bowel disease (IBD)

psoriasis

Hashimoto’s thyroiditis

Myeloproliferative disorders

Myeloproliferative disorders cause the bone marrow to overproduce different types of blood cells including basophils.

5]NEUTROPHILIA

Neutrophilia (also called neutrophil leukocytosis or occasionally neutrocytosis) is leukocytosis of neutrophils, that is, a high number of neutrophils in the blood.Because neutrophils are the main type of granulocytes, mentions of granulocytosis often overlap in meaning with Neutrophils are the primary white blood cells that respond to a bacterial infection, so the most common cause of neutrophilia is a bacterial infection, especially pyogenic infections.

Neutrophils are also increased in any acute inflammation, so will be raised after a heart attack,other infarct or burns.

Some drugs, such as prednisone, have the same effect as cortisol and adrenaline (epinephrine), causing marginated neutrophils to enter the blood stream.

A neutrophilia might also be the result of a malignancy. Chronic myelogenous leukemia (CML or chronic myeloid leukaemia) is a disease where the blood cells proliferate out of control. These cells may be neutrophils. Neutrophilia can also be caused by appendicitis and splenectomy.

Primary neutrophilia can additionally be a result of leukocyte adhesion deficiency.

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6]THROMBOCYTHEMIA

 Thrombocythemia (THROM-bo-si-THE-me-ah) and thrombocytosis (THROM-bo-si-TO-sis) are conditions in which your blood has a higher than normal number of platelets.

Platelets are blood cell fragments. They're made in your bone marrow along with other kinds of blood cells.

Platelets travel through your blood vessels and stick together (clot). Clotting helps stop any bleeding that may occur if a blood vessel is damaged.

A normal platelet count ranges from 150,000 to 450,000 platelets per microliter of blood.

 Causes Thrombocythemia and Thrombocytosis?")

Secondary thrombocytosis is more common than primary thrombocythemia. Studies have shown that most people who have platelet counts over 500,000 have secondary thrombocytosis

7] Thrombocytopenia Symptoms

Sometimes, you don't have any symptoms from thrombocytopenia. When you do, the main problem is bruising and bleeding in your skin that looks like tiny red or purple spots, called petechiae.

Thrombocytopenia

Causes

Your bone marrow, the spongy tissue inside your bones, makes platelets. You can get thrombocytopenia if your body doesn't make enough of them or if it destroys them faster than you can replace them.

Your body might not make enough platelets if you:

Have a blood disorder that affects your bone marrow, called aplastic anemia

Have cancer such as leukemia or lymphoma, which damages your bone marrow

Have a platelet-lowering disease like Wiskott-Aldrich or May-Hegglin syndromes

Have a virus such as chickenpox, mumps, rubella, HIV, or Epstein-Barr

Drink a lot of alcohol over a long time

Have chemotherapy or radiation treatment for cancer, which destroys stem cells that form platelets. If you've had contact with chemicals like pesticides and arsenic, your body might slow the process of making platelets.

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polycythemia

an abnormally increased concentration of haemoglobin in the blood, either through reduction of plasma volume or increase in red cell numbers. It may be a primary disease of unknown cause, or a secondary condition linked to respiratory or circulatory disorder or cancer.

Causes of polycythemia are primary or secondary. In primary polycythemia, abnormalities in red blood cell production cause an increase in red cell count. In secondary polycythemia, factors external to red blood cell production (for example, hypoxia, sleep apnea, certain tumors) result in polycythemia.

9anemia

a condition in which there is a deficiency of red cells or of haemoglobin in the blood, resulting in pallor and weariness.

Causes

The most common cause of anemia is low levels of iron in the body. This type of anemia is called iron-deficiency anemia. Your body needs a certain amount of iron to make hemoglobin, the substance that moves oxygen throughout your body. However, iron-deficiency anemia is just one type.

Types

Iron deficiency anemia. This most common type of anemia is caused by a shortage of iron in your body. ...

Vitamin deficiency anemia. ...

Anemia of inflammation. ...

Aplastic anemia. ...

Anemias associated with bone marrow disease. ...

Hemolytic anemias. ...

Sickle cell anemia.

Vitamin deficiency anemia. ...

Anemia of inflammation. ...

Aplastic anemia. ...

Anemias associated with bone marrow disease. ...

Hemolytic anemias. ...

Sickle cell anemia.

10]LEUKEMIA

a malignant progressive disease in which the bone marrow and other blood-forming organs produce increased numbers of immature or abnormal leucocytes. These suppress the production of normal blood cells, leading to anaemia and other symptoms.

Leukemia develops when the DNA of developing blood cells, mainly white cells, incurs damage. This causes the blood cells to grow and divide uncontrollably. Healthy blood cells die, and new cells replace them. These develop in the bone marrow

Causes

Lymphatic systemOpen pop-up dialog box

Scientists don't understand the exact causes of leukemia. It seems to develop from a combination of genetic and environmental factors.

11]RETICOLOCYTOSIS

Reticulocytosis may be due to posthemorrhagic blood loss or hemolysis. Reticulocytes are immature red cells released in response to decreased hematocrit levels.

Long-term alcohol intake directly affects bone marrow. This effect is not related to the presence of liver disease or vitamin deficiency and resolves only after months of abstinence from alcohol.

Causes

This can be caused by aplastic anemia or other types of anemia, such as iron deficiency anemia. A low reticulocyte count can also be caused by exposure to radiation, a long-term (chronic) infection, or by certain medicines that damage the bone marrow.