

Blood: what can go wrong

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Anemia

The word anemia literally means "lack of blood." It is a condition that results when the number of red blood cells or the amount of hemoglobin is reduced to a low level and the cells of the body do not receive all the oxygen they need to function and produce energy. Weakness, headaches, slight fever and other discomforts are characteristics of anemia. Scientists have identified more than 400 types of anemia. Common forms of the condition may be brought about by rapid blood loss, the destruction or disease of the bone marrow, or an inadequate amount of iron or the vitamin B 12 in a person's diet.

Blood cholesterol

An important attribute in deciding a person's risk of getting coronary heart disease. When you have too much cholesterol in your blood, the excess builds up on the walls of the arteries that carry blood to the heart. This buildup is called "atherosclerosis" or "hardening of the arteries." It narrows the arteries and can slow down or block blood flow to the heart. With less blood, the heart gets less oxygen. With not enough oxygen to the heart, there may be chest pain, heart attack, or even death. Cholesterol buildup is the most common cause of heart disease, and it happens so slowly that you are not even aware of it. The higher your blood cholesterol, the greater your chance of this buildup.

Hemophilia

Hemophilia is an inherited blood disease in which the blood lacks one or more of the clotting factors. Because of this, the blood is unable to form a clot, and even a small cut can result in too much bleeding and death. Commonly called "bleeder's disease," hemophilia principally affects males. When hemophiliacs (people afflicted with hemophilia) suffer a trauma and begin to bleed, they are given a transfusion of fresh plasma or an injection of the clotting factor they lack.

In December 1998, a team of doctors from the U.S. and Europe announced a possible breakthrough technique to reduce the risk of rejection in heart-transplant patients.

Currently, when patients are given new hearts, they are also given drugs, called immunosuppressants, to prevent their immune systems from developing antibodies that would attack the new organs. Unfortunately, these drugs also weaken their immune systems, allowing infections to develop.

HIV/AIDS Human Immuno-Deficiency Virus/Acquired Immuno-Deficiency Syndrome

A blood-borne disease of the human immune system that is characterized cytologically especially by a reduction in the numbers of T cells, to 20% or less of normal, making the patient highly vulnerable to life-threatening conditions, such as pneumonia. There are others conditions that may become life-threatening and that are caused by infection with HIV. HIV has been found in blood, semen, saliva, tears, nervous system tissue, breast milk, and female genital tract secretions; however, only blood, semen, female genital tract secretions, and breast milk have been proven to transmit HIV to others. It is most commonly transmitted in infected blood and bodily secretions (e.g. semen), commonly during intravenous drug use and/or sexual intercourse.

Leukemia

Leukemia is a type of cancer that affects the blood-forming tissues and organs, mainly the bone marrow, lymph nodes, and spleen. The disorder causes these blood-forming tissues and organs to flood the bloodstream and lymphatic system with immature and abnormal white blood cells.

Infections develop because these useless white blood cells have no infection-fighting ability. Anemia, easy bruising, and hemorrhaging (bleeding without clotting) also occur because of the lack of red blood cells and platelets. Leukemia is further marked by high fever and continual weakness.

Although ten times as many adults as children are stricken with the disease, leukemia is the number one disease killer of children. There are many types of leukemia, but no

one cause of the disease is known. Scientists believe genetic abnormalities, exposure to toxic chemicals, and overexposure to X rays or other radioactive materials may play a part in the development of leukemia.

Chemotherapy—drug therapy to poison and destroy the abnormal cells—is effective against some types of leukemia, especially in children. Blood transfusions and bone marrow transplants have also proven effective in certain cases. With the best treatment, almost 75 percent of children suffering from leukemia survive.

Sepsis

Sepsis is a life-threatening bacterial infection of the blood and body organs caused by bacteria that has entered body tissue, most often through a wound or incision, that leads to the formation of pus, and/or to the spread of the sepsis bacteria throughout the blood stream. Sepsis is often caused by organisms that are resistant to most standard antibiotics and more often than not, is found in people with a weakened immune systems.

Commonly affected areas are the lungs, the genitourinary tract, the liver or liver secretion tract, the gastrointestinal tract, surgical wounds or drains, and spots of skin disturbance known as decubitus ulcers or bedsores. Sepsis infection can lead to a form of shock, known as septic shock.