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ROBERT WOOD JOHNSON MEDICAL SCHOOL
University of Medicine & Dentistry of New Jersey

The Cancer Institute of New Jersey℠
NCI CCC
A Comprehensive Cancer Center Designated by the National Cancer Institute

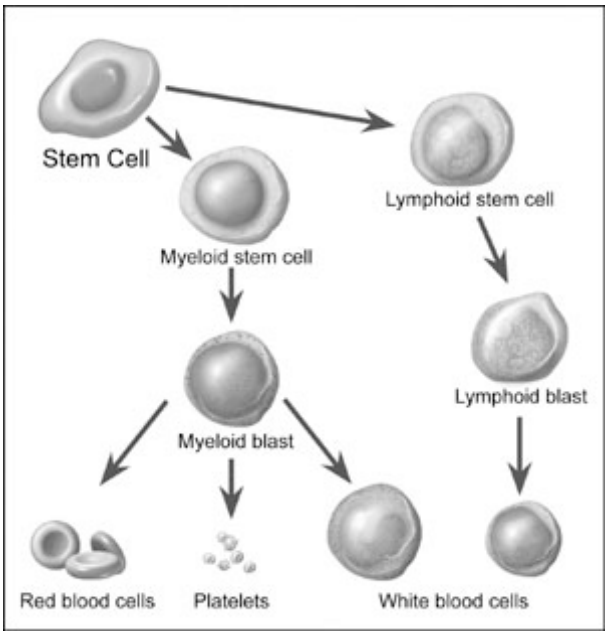
December Is National Aplastic Anemia Awareness Month

What Is Aplastic Anemia?

Aplastic anemia is a non-cancerous disease that occurs when the bone marrow stops making enough blood cells. The body makes three types of blood cells:

- red blood cells, which contain hemoglobin and deliver oxygen to all parts of the body
- white blood cells, which help fight infection
- platelets, which help blood clot when you bleed

These blood cells are made in the bone marrow, which is the soft, sponge-like material found inside bones. The bone marrow contains immature cells called stem cells that produce blood cells. Stem cells grow into red cells, white cells, and platelets or they can make more stem cells. In patients who have aplastic anemia, there are not enough stem cells in the bone marrow to make enough blood cells.



Picture of blood cells maturing from stem cells.

Experts believe that aplastic anemia is an autoimmune disorder. This means that the patient's immune system (which helps fight infection) reacts against the bone marrow and the bone marrow is not able to make blood cells. Stem cells are no longer being replaced and the left over stem cells are not working well. Therefore, the amount of red cells, white cells, and platelets begin to drop. If blood levels drop too low, a person can feel very tired (from low red cells), have bleeding or bruising (from low platelets), and/or have many or severe infections (from low white cells).

What Are the Key Statistics About Aplastic Anemia?

Aplastic anemia can occur in anyone of any age, race, or gender. There are about 500 new cases in the United States each year. Aplastic anemia occurs mostly in young adults between the ages of 15-25 and in people over the age of 60. It appears to be two to three times more common in the Asian countries.

Who's At Risk?

In about 50% of all cases, the cause is unknown. This is called **idiopathic** aplastic anemia. **Acquired** aplastic anemia refers to those cases where factors from the environment and physical conditions seem to be linked with the growth of the disease. Studies have shown that contact with certain toxins such as benzene and radiation, to viruses such as hepatitis, and to some medications can cause this disease. It is more common among women who are pregnant. It is **not** contagious. In rare cases, aplastic anemia can be hereditary (passed from parent to child by information contained in the genes). This occurs with diseases such as Fanconi's anemia, Dyskeratosis Congenita and Shwachman-Diamond syndrome.

What are Signs and Symptoms of Aplastic Anemia?

The symptoms of aplastic anemia are:

- Fatigue or lack of energy
- Shortness of breath when active
- Pale color of the skin and mucous membranes (this includes the lining of the inside of the nose and mouth)
- Dizziness
- Decreased alertness
- Bleeding from the nose, mouth, or rectum
- Easy bruising
- Pinpoint red spots on the skin
- Frequent and severe infections

Having one or more of these symptoms does not mean that you have aplastic anemia since they can occur with many other illnesses. It is very important to talk to your healthcare team if you have any of these symptoms.

Can Aplastic Anemia Be Found Early?

There is no screening test for early detection of aplastic anemia. A simple blood test that measures the levels of blood cells can alert your doctor if there is a problem. You should see your doctor each year for a routine exam and promptly tell them about any symptoms you may have. If your doctor thinks that you may have aplastic anemia, you will need to see a hematologist. This is a doctor whose focus is treating problems of the blood and bone marrow.

Can Aplastic Anemia Be Prevented?

Avoiding prolonged contact with toxins such as benzene (found in industrial settings), radiation, and contact with viruses such as hepatitis may prevent aplastic anemia. However, most of the time, there is nothing that we know of that can prevent the disease.

Cancer Prevention Clinical Trials

For information about nationwide aplastic anemia trials, you can call the National Cancer Institute at 1-800-4 CANCER or visit their Web site at www.cancer.gov.

Expert Advice from The Cancer Institute of New Jersey

Dr. Roger Strair is a known expert in caring for patients with blood disorders. He is a Professor of Medicine at Robert Wood Johnson Medical School, the Associate Director of Hematopoietic Stem Cell Transplantation, and Director of Hematologic Malignancies at The Cancer Institute of New Jersey. Here are his thoughts about aplastic anemia:

> "We are learning a lot about aplastic anemia. Some cases are caused by an immune reaction against blood cells. This understanding has lead to exciting new therapies that provide options for patients not ideally suited for a bone marrow transplant."

Where Can I Find Further Information?

The Resource and Learning Center
www.cinj.org/rlc
732-235-9639

Aplastic Anemia and MDS (Myelodysplastic Syndromes) International Foundation, Inc.
P.O. Box 613
Annapolis, MD 21404
www.aamds.org
(800) 747-2820

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