

Immune Thrombocytopenic Purpura (ITP)

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What are platelets?

Platelets are the tiny cells that seal minor cuts and wounds to stop bleeding by clumping together to form blood clots. Platelets are also called thrombocytes. They are produced in the bone marrow, and old platelets are destroyed in the spleen by macrophages, a type of white blood cells. Normal platelet count is in the range of 150,000 to 450,000.

What is ITP?

ITP stands for immune thrombocytopenic purpura. The “I” stands for “immune”, which means that the cause is immune-mediated destruction. The “T” stands for “thrombocytopenic,” which means the blood does not have enough platelets. The “P” stands for “purpura,” which means a person has excessive bruising. It is also called as idiopathic thrombocytopenic purpura.

What are the types of ITP?

There are two types of ITP:

- Acute ITP – is the most common form of the disorder. It is most commonly seen in children between 2 to 6 years of age. The symptoms may follow a viral illness. The onset is very sudden and symptoms generally disappear in less than 6 months. It usually does not recur.
- Chronic ITP – is more common in adults and adolescents, but can occur in children also. The symptoms last from 6 months to several years. Chronic ITP can recur often.

The newer classification of ITP is as follows: All patients are called newly diagnosed ITP till 3 months from presentation, from 3-12months it is called as persistent ITP and beyond 12 months the patient is labeled as a chronic ITP.

What causes ITP?

The cause of ITP is not known. People with ITP form antibodies that destroy their blood platelets. Normally, antibodies are a healthy response to bacteria or viruses. In people with ITP, however, the antibodies destroy the body's own blood platelets instead of bacteria or viruses.

The antibodies are triggered by:

In children

- Flu
- Measles
- Mumps

In adults

- Immune disorder
- Pregnancy
- Certain drugs
- Viral infection

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What are the signs and symptoms in a child with ITP?

The platelet count in a child with ITP is generally less than 100,000. When significant bleeding occurs, the count may be below 10,000. The lower the platelet count, the greater the risk of bleeding. The signs and symptoms are related to increased bleeding. They may include:

- Bruises easily (has bluish colored discoloration on the skin)
- Petechiae – tiny red dots on the skin caused by very small bleeds
- Nosebleeds
- Bleeding gums
- Intestinal bleeding – blood in vomit or stools
- Excessive bleeding during menstruation
- Blood in urine
- Bleeding in head – can be life threatening
- Prolonged bleeding from cuts
- Profuse bleeding during surgery

How is ITP diagnosed in children?

In a child with suspected ITP, the following tests are done to confirm the diagnosis and rule out other causes of bleeding:

- Complete blood count (CBC) – low platelet count with normal red blood cell and white blood cell counts
- Blood smear – to verify the number of platelets seen in CBC
- Coagulation studies – are normal
- Bone marrow examination (may/may not be done) – is normal
- HIV
- Auto immune profile/screen to exclude auto immune diseases
- Assays for antiplatelet antibodies

How is ITP treated in children?

Most children generally improve without treatment. So nothing more is needed than regular monitoring, platelet check, and taking care of the bleeding symptoms. Hospitalization is not necessary if good home care is available.

Children with severe bleeding who need treatment, the following are the first line of treatment:

- Single dose of intravenous immunoglobulin (IVIg)
- Short course of corticosteroids
- Single dose of anti-D immune globulin can be used in Rh-positive children whose spleen has not been removed

Second line treatment includes:

- Rituximab
- High dose dexamethasone

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Splenectomy is recommended for those who do not respond to, or cannot tolerate, other treatments and have significant or persistent bleeding, or need a better quality of life.

In cases of bleeding in the brain or other life-threatening bleeding, platelet transfusions are given.

Do's and Don'ts of ITP

- Do not take intramuscular injections.
- Do not use pain killers such as ibuprofen, aspirin as these affect the functioning of the platelets. The safest pain killer is paracetamol.
- Do give deep pressure at the site of blood collection or bone marrow. Do not keep checking to see whether it is bleeding.
- Avoid using a hard toothbrush during the thrombocytopenia, to prevent gum bleeds. Also avoid eating hard foods as it may cause bleeding.
- Avoid contact sports till the platelet count improves.
- Prevent injury to the child (which is easier said than done). Pad sharp edges of furniture or corners to prevent injury.
- In case of bleeding from the nose, oral cavity, excessive menstrual bleeding or dark colored stools, please contact your doctor.