



Understanding Thrombotic Thrombocytopenic Purpura

TTP mostly affects people ages 20 to 50, occurring more frequently in people with HIV.

1. Introduction

Thrombotic thrombocytopenic purpura (TTP) is a rare, life-threatening blood disorder in which blood clots form in small blood vessels throughout the body. This restricts the flow of blood to vital organs such as the heart, kidneys, and brain, which can lead to long-term organ damage. Since TTP causes increased clotting, blood platelets are used up, often leading to internal bleeding and bruising. TTP usually occurs suddenly and can last anywhere from days to months. If not properly treated, this disease can lead to a rare form of anemia: hemolytic anemia.

2. Causes

TTP can be inherited or acquired. Inherited TTP results from a faulty ADAMTS13 gene. A lack of activity in this gene leads to overactive clotting and the destruction of red blood cells. In individuals with acquired TTP, the ADAMTS13 gene is not faulty. Instead, the body makes antibodies that stop the gene from working properly. This can be linked to various factors such as pregnancy, bone marrow transplants, or certain medications.

3. Symptoms

People with TTP can experience a range of symptoms related to neurological dysfunction, anemia, or thrombocytopenia. Common symptoms include:

- + Petechiae – small, flat red spots under the skin caused by blood leaking from blood vessels
- + Purpura – red, purple, or brownish-yellow spots caused by bleeding in the skin
- + Extreme tiredness
- + Fever
- + Headaches or speech changes
- + Jaundice
- + Shortness of breath
- + Increased heart rate

4. Treatment

Plasma treatments and medication are the most common treatments for TTP. If these treatments do not work, the next step is typically surgery to remove the spleen. This stops the body from making antibodies that block ADAMTS13 enzyme activity. Without treatment, TTP can cause frequent blood clots and progress to other, long-term complications, including brain damage or a stroke.

Did you know?

TTP is a rare disease that occurs in about 4 out of 100,000 people each year.

For more information on TTP and supportive resources, please visit www.nhlbi.nih.gov.

References:

- <https://www.nhlbi.nih.gov/health/thrombotic-thrombocytopenic-purpura>
- <https://my.clevelandclinic.org/health/diseases/22380-thrombotic-thrombocytopenic-purpura>
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