



## No. 53 – When ITP Patients Develop an Abnormal Blood

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**Title: When ITP Patients Develop an Abnormal Blood Clot**

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Bleeding risks are almost all we talk about for people with ITP. But other than having a low platelet count, most people with ITP are no different from everyone else. That means what happens to others can occur in people with ITP as well, and that includes blood clots. What happens when a person with ITP develops an abnormal blood clot that requires treatment with a drug such as aspirin or clopidogrel that blocks platelet action or an anticoagulant drug (sometimes called a “blood thinner”), such as heparin or warfarin that blocks blood coagulation? The risk of these drugs for everyone is increased bleeding. At first glance it seems wrong to treat a person who has ITP with a drug that may cause bleeding.

There are two different types of blood clots: clots in the veins and clots in the arteries. The risk for both increases with age, becoming more common in older adults. Children on the other hand are resistant to blood clots because their blood vessels are healthy and smooth, and moreover children are very active, which helps blood circulation and reduces the risk of blood clots.

Arteries carry blood away from the heart at high pressure with rapid flow. Arterial blood clots can occur in the heart and the brain. Heart clots can damage the heart muscle and cause a heart attack; brain clots cause stroke. Blood clots in the arteries are caused principally by clumping of platelets at places where the arterial wall is damaged by atherosclerosis. A heart attack results from blockage of an artery (called a “coronary artery”) which supplies oxygen to the heart muscle. Some patients with heart attacks have procedures to open up the coronary artery, cleaning out the platelet clot as you would clean out a blocked drain in your kitchen sink. Sometimes a metal stent is left in the artery to keep it open. These patients need to be treated with drugs that block platelet activity. Most important among these are aspirin and clopidogrel.

Blood clots can also occur inside the heart chamber when the heart rhythm is irregular. The irregular rhythm is called “atrial fibrillation”; it’s common, affecting 2-3% of all adults. When blood clots form inside the heart, pieces of the clot can break off and flow up to the brain, causing a stroke. Therefore people with atrial fibrillation are treated with an anticoagulant drug.

Blood clots in veins most often occur in the legs, where blood flow returning to the heart is slow. Most patients with leg vein blood clots, described as “deep venous thrombosis” or DVT, have obstruction to the venous flow which creates a pool of blood where clots can form. The obstruction may be caused simply for sitting the same position for many hours, being limited to bed for a long time as with a serious illness, or by surgery such as a hip or knee replacement. The major risk of venous thrombosis is that the blood clots can break loose and travel up to the lungs where they block the lung vessels. Such a blood clot that breaks off and travels through the circulation is called an “embolus” and blood clots in the lung are called a “pulmonary embolus”. Pulmonary embolus can be suddenly fatal; therefore it’s urgent to begin treatment with an anticoagulant.

How can patients with ITP and a low platelet count get blood clots? Just as only a few platelets, such as a count of 10, are required to stop bleeding, only a few platelets are necessary to create a clot. In fact, some doctors believe that abnormal blood clots are actually more common in patients with ITP. The next question is: Can patients with ITP take anti-platelet and anti-coagulant drugs? The answer is yes. But this depends on the severity of the ITP. If the platelet count is above 50, it is generally agreed that standard anti-platelet and anticoagulant treatment can be given safely. If the platelet count is less than 50, the use of anti-platelet and anticoagulant treatment is based on the risk from the clot balanced against the risk for bleeding. If the platelet count is less than 10, anti-coagulant or anti-thrombotic drugs may be dangerous. But blood clots are also dangerous, so the balance of risk, benefits, and danger of bleeding in the individual patient must all be carefully evaluated together. We recently cared for a young woman with ITP whose platelet count was less than 10, but also she had multiple blood clots in both of her lungs. In addition to maximum treatment for her ITP, we also felt that treatment with anticoagulant drugs was essential. She’s done well with no bleeding, and her platelet count has responded to treatment so she can her continue anticoagulant drug.

In conclusion, people with ITP can develop both arterial and venous blood clots, and these can be treated effectively with the appropriate anti-platelet and anticoagulant drugs in almost everyone.