No. 4 – How is ITP diagnosed?

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Title: **How is ITP diagnosed?**
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There are no specific tests for ITP; ITP can only be diagnosed by excluding other causes of a low platelet count. Doctors call this a 'diagnosis of exclusion'. This situation is different from many other diseases. For example, a strep throat is diagnosed with certainty by a positive throat culture for the streptococcus germ, and most cancers are diagnosed with certainty by a positive biopsy. ITP has been defined as isolated thrombocytopenia with no clinically apparent associated conditions or other causes of thrombocytopenia. Isolated thrombocytopenia means that the other components of the blood counts (the red and white blood cells) are normal. The phrase 'clinically apparent' means that there is no obvious evidence of other disease causing thrombocytopenia even though there might be abnormalities of laboratory tests that suggest another condition. For example, a positive test for antinuclear antibodies (ANA) can be associated with lupus, but when there are no signs or symptoms of another disease (such as lupus) then ITP remains the appropriate diagnosis. On the other hand, if a patient has clinically apparent lupus, with features such as rash, arthritis, kidney disease, and other abnormalities, then ITP is not an appropriate diagnosis because the patient's problems and management will be determined by the course of the lupus, not just by the low platelet count.

Although it may seem difficult to make a diagnosis in the absence of a specific, defining 'gold standard' laboratory test, the diagnostic evaluation for ITP is usually quite simple and straightforward. It most often includes only the basic examination, including a medical history, physical examination, and blood counts with examination of the blood smear. If these are compatible with the diagnosis of ITP and do not suggest other causes for the low platelet count, then the diagnosis is established. Specifically, tests for antibodies against platelets are not required and do not influence treatment decisions (even though antibodies against platelets are the cause of ITP).

The indications for doing a bone marrow examination when evaluating a patient for ITP are controversial. In children, it has been recommended that a bone marrow examination is important before treatment with prednisone is begun. This rule was established because prednisone alone may be partially effective in treating for the type of leukemia which is most common in young children, acute lymphocytic leukemia. There is concern that prednisone treatment may thus temporarily mask the presence of leukemia and delay definitive treatment. In practice, however, many pediatric hematologists begin prednisone without doing a bone marrow examination. In older adults, other bone marrow disorders such as myelodysplasia may affect platelet production and a low platelet count may initially be the only abnormality. So in these older patients, a bone marrow examination may be appropriate. A bone marrow examination may also be performed in patients, either children or adults, who do not respond appropriately to treatment.

Drug-induced thrombocytopenia, in which an allergic reaction to a drug can cause a low platelet count, is initially indistinguishable from ITP. This is more frequently a problem among adults, who often take many medications. If drug-induced thrombocytopenia is suspected, the potential offending drugs must be stopped, substituting another medicine. On our website (http://moon.ouhsc.edu/jgeorge) we list all reports in medical journals of thrombocytopenia related to drugs, and rank them by the strength of evidence associating the drug as a cause for thrombocytopenia. This list then provides guidance for which drugs may most likely cause thrombocytopenia. Recovery of the platelet count to normal will occur within a week after the drug is stopped.

In summary, although the definition of ITP may seem imprecise, the diagnostic approach is really straightforward. In most patients, no further evaluation beyond the history, physical examination, and initial blood counts with examination of the blood smear is required.