



58. Low platelets and clotting

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Q: "I was diagnosed with Factor V Leiden last year after developing a blood clot in my leg. Yesterday my 17-year-old daughter was diagnosed with a blood clot in her leg. The strange part is that 3 years ago she was diagnosed with chronic ITP [Idiopathic Thrombocytopenia Purpura], and has been treated with steroids ever since. Doesn't this seem conflicting?? At present, her platelet count is at 30 thousand, but they have started Lovenox® injections."

A: ITP is a disorder in which platelets are destroyed by the body and therefore decrease. It is an autoimmune disease, i.e. a disturbance of the immune system: the patient's immune system thinks it needs to get rid of platelets and produces antibodies against them that destroy them. Low platelets typically lead to a bleeding tendency and not a clotting tendency. However, ITP can be associated with the immune disorder antiphospholipid-antibody-syndrome (also see [Q/A 21](#), [Q/A 54](#), [Q/A 56](#)). Patients with this disorder may have a clotting tendency in spite of low platelets.

The disorders that cause low platelets and clotting at the same time are:

1. Antiphospholipid antibody syndrome;
2. TTP (= thrombotic thrombocytopenic purpura; highly unlikely in the above patient, since it is typically an acute disease and does not present over a three year duration)
3. HIT (= heparin induced thrombocytopenia; not likely in the above patient, since she was probably not on heparin at the time of diagnosis of ITP or at the time when she presented with the leg clot);
4. Malignant tumors (unlikely in a young patient);
5. DIC (= disseminated intravascular coagulation; highly unlikely in a non-hospitalized patient without any serious underlying disease);
6. Presence of a strong underlying inherited thrombophilia and coincidental occurrence of ITP (= Immune Thrombocytopenia Purpura).

It is often difficult to decide how to treat such a patient, since he/she is (a) at risk for bleeding because of the low platelets and blood thinners (heparin, low-molecular weight heparin, warfarin) make the bleeding risk worse, and (b) the patient needs blood thinners since he/she has an acute clot.

One approach to anticoagulation in patients with low platelets that has recently been used (in the CLOT study; New England Journal of Medicine 2003;349:146-53) has been:

	For warfarin anticoagulation	For low molecular weight heparin (LMWH) anticoagulation
If platelets > 100,000:	Full-dose: INR 2.0-3.0	Full-dose
If platelets 50 - 100,000	Reduced dose: INR 1.5-2.5	reduced dose
If platelets < 50,000	No warfarin	No LMWH

If in the patient with a deep vein thrombosis anticoagulation is stopped or can not be given because of low platelets, one should consider an inferior vena cava filter (transient or permanent IVC filter).