# General Approach of Thrombocytopenic Patients

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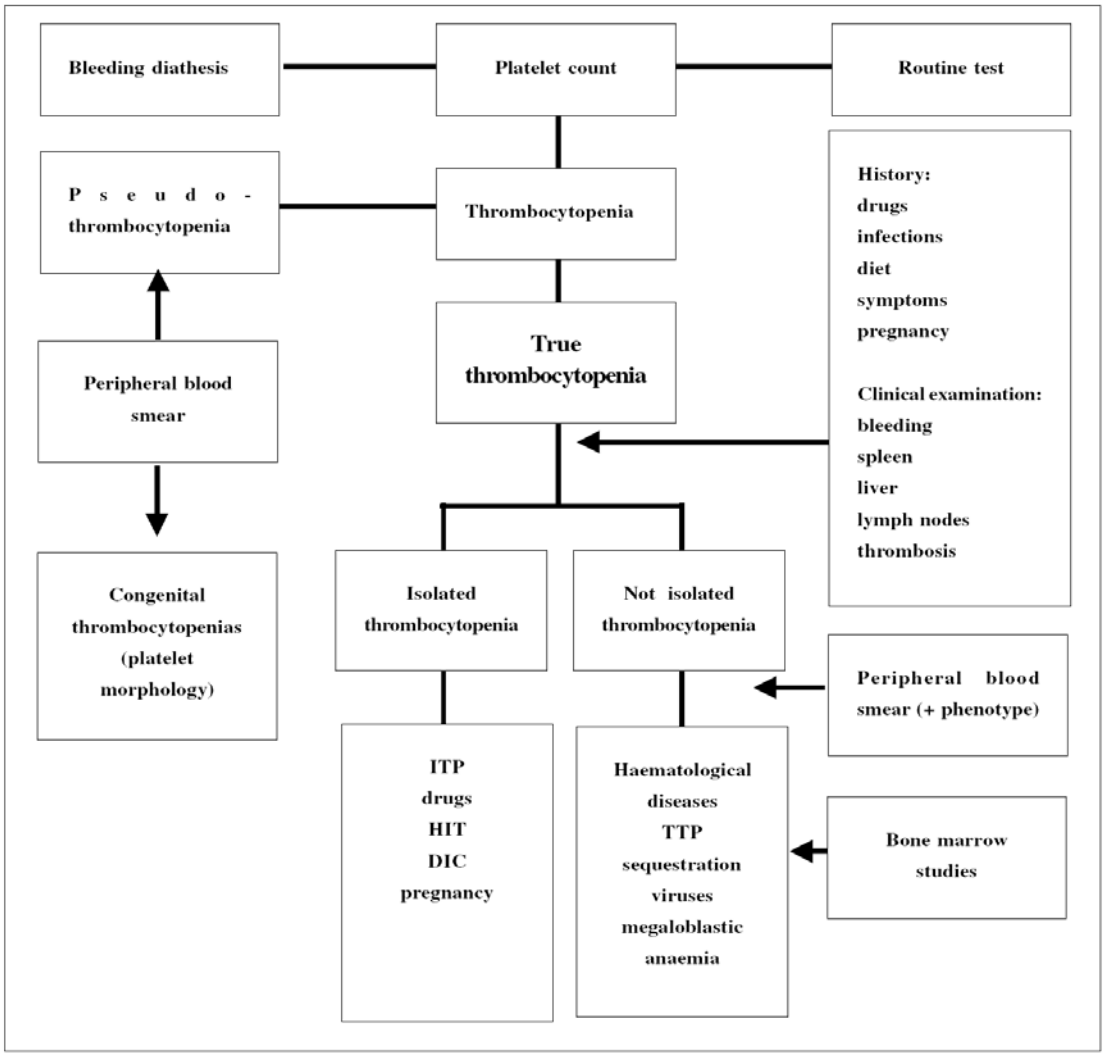
Thrombocytopenia is a frequently encountered hematological disease at hematology OPD and in-hospital patients consultation. The definition of thrombocytopenia can be classified into 3 settings by the platelet count: mild: $50\times10^9$/L-$100\times10^9$/L (or $150\times10^9$/L), moderate: $20\times10^9$/L-$50\times10^9$/L and severe: below $20\times10^9$/L. The majority of patients with mild thrombocytopenia usually become asymptomatic, whose thrombocytopenia are found by incidental situations such as healthy examination. For those patients with moderate thrombocytopenia, easy bruising and excessive bleeding after dental extraction or surgery can occur. Patients with severe thrombocytopenia may experience severe, life-threatening bleeding such as intracranial hemorrhage. In clinical practice, the finding of thrombocytopenia is common and often causal. In the majority of thrombocytopenia cases it are found following bleeding symptoms or in complete contrast, after thromboembolic events that can occur in the antiphospholipid syndrome and in heparin-induced thrombocytopenia. Therefore, when we deal with patients with thrombocytopenia, we have to pay much attention on the patients' clinical presentations and features. Through detailed and reliable histories taking including bleeding, thrombotic and family histories, careful physical examination covering mucocutaneous bleeding, skin purpura, liver, spleen and lymph nodes and peripheral blood smear examination, the causes of most patients' thrombocytopenia can be found and correct diagnosis can be established. For example, for a patient who has severe thrombocytopenia without any bleeding, pseudothrombocytopenia should be taken into account and peripheral blood smear examination is strongly indicated. On the other hand, in a young adult female with long-term mild to moderate thrombocytopenia, chronic ITP is first considered and both bone marrow examination and corticosteroid treatment are not necessary. The algorithm of approaching patient with thrombocytopenia is listed in Figure. There are many differential diagnosis of thrombocytopenia as shown in Table 1. Some of them may cause severe thrombocytopenia with life-threatening outcome such as ITP, TTP and DIC. Prompt

and correct diagnosis is very crucial for the appropriate and effective treatment and good prognosis.

Figure 1. Algorithm for the diagnosis of thrombocytopenia




Adapted from Veneri et al. Blood transufion 2009;7:75-85.

Table 1. Differential diagnosis of thrombocytopenia

1) Pseudothrombocytopenia
2) Congenital thrombocytopenia
3) Acquired thrombocytopenia
   a) Platelet sequestration
      - Hypersplenism
   b) Decreased production
      - Neoplasia (bone marrow infiltration or cytotoxic drugs)
      - Viruses (EBV, CMV, rubella, varicella, parvovirus)
      - Megaloblastic anaemia
   c) Increased destruction
      - Immune-mediated (ITP, neonatal alloimmune thrombocytopenia, drug-induced ITP, post-transfusion, autoimmune diseases, lymphoproliferative disorders, HIV, HCV and *Helicobacter pylori* infections, HIT
      - Not immune-mediated (vascular prostheses, DIC, TTP/HUS, HELLP, eclampsia)

Abbreviations: EBV, Epstein-Barr virus; CMV, cytomegalovirus; ITP, idiopathic thrombocytopenic purpura; HIV, human immunodeficiency virus; HCV, hepatitis C virus; HIT, heparin-induced thrombocytopenia; DIC, disseminated intravascular coagulation; TTP, thrombotic thrombocytopenic purpura; HUS, haemolytic uraemic syndrome; HELLP, haemolysis, elevated liver enzymes, low platelets.

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