



PRESENTATION

| HISTORY | PHYSICAL EXAM |
|--|--|
| <p>Bleeding Hx</p> <ul style="list-style-type: none"> Provoked (trauma, surgery) or spontaneous Deep or superficial bleeds <div style="border: 2px dashed red; padding: 5px; margin: 10px 0;"> <p>Red Flag Symptoms </p> <p>! Fever, weight loss, night sweats, bone pain, fatigue</p> </div> <ul style="list-style-type: none"> Prodromal illness Recent live vaccination (MMR) Recent travel Dietary History Family Hx of bleeding disorders Review Medications list If newborn ask about maternal PLT count, medical history and medications | <ul style="list-style-type: none"> ABCs and vital signs (stable or unstable) Purpura, petechiae, ecchymoses, mucocutaneous bleeding Altered consciousness, abnormal pupils, slurred speech Lymphadenopathy (malignancy) Hepatosplenomegaly Swollen joints or rash |
| | INVESTIGATIONS |
| | <p>CBC (isolated PLT vs. pancytopenia)</p> <ul style="list-style-type: none"> Check previous PLT counts <p>Peripheral blood smear</p> <p>Bone marrow examination ONLY IF:</p> <ul style="list-style-type: none"> ! Red Flag Symptoms ! Involvement of other blood cell lines (anemia or neutropenia) ! Blasts on smear |

Definition of thrombocytopenia: platelet (PLT) count < 150,000/μL

SIGNS AND SYMPTOMS

| Platelet (x 10 ³ /μL) | Example of Bleeding Risk |
|----------------------------------|--|
| > 100 | Asymptomatic |
| 50 - 100 | Post-operative bleeding & bruising |
| 20 - 50 | Petechiae, purpura, ecchymoses |
| 5 - 20 | Epistaxis or gingival bleeding |
| < 10 | GI bleeding, heavy menstrual bleeding or intracranial hemorrhage |

IMMUNE THROMBOCYTOPENIA (ITP)

- #1 etiology in children
- Sudden severe drop in PLT count often associated with petechiae and mild bruising
- Ask about **recent viral illnesses** or **live vaccine** administration
- Majority recover with **observation**, however, may require **corticosteroids** or **IVIG**

DIFFERENTIAL DIAGNOSIS

| Thrombocytopenia | | | |
|--------------------------------------|---|---|--|
| PLT Destruction | | Decreased PLT Production | Splenic Sequestration |
| Immune Mediated | Consumptive | | |
| Immune Thrombocytopenia | Hemolytic Uremic Syndrome | Malignancy (leukemia, lymphoma) | Hypersplenism (infection, sickle cell, malignancy) |
| HIV, Hep C | Disseminated Intravascular Coagulopathy | Medications (chemotherapy) | Von Willebrand Disease |
| Neonatal alloimmune thrombocytopenia | | Infectious (sepsis, viral) | |
| Lupus, Juvenile Idiopathic Arthritis | | Nutritional deficiencies (B12, folate, iron) | |
| Neonatal autoimmune thrombocytopenia | | Inherited & Congenital (Wiskott-Aldrich Syndrome) | |

DISSEMINATED INTRAVASCULAR COAGULOPATHY (DIC)

- ↑ thrombosis & ↑ bleeding
- Prolonged PTT, INR
- Low fibrinogen
- Sick patient requiring PICU
- Identify and treat the underlying cause (e.g., sepsis, trauma or malignancy)
- PLT transfusion may be indicated if significant bleeding
- Transfusion thresholds vary based on clinical situation (<10-100 x 10³/μL PLT)
- 5-10 mL/kg PLT transfusion (max 300 mL) over 1 hour

Published August 2021

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