Hampshire Hospitals NHS
NHS Foundation Trust

Thrombocytopenia

Presentation

Definition

Platelet count < 150 x 10^9/L

Clinical Findings

- Thrombocytopenia may result from failure of platelet production or increased platelet consumption. Immune mediated platelet consumption, immune thrombocytopenia (ITP) is the most common cause. This is often mild, chronic and asymptomatic.
- Thrombocytopenia may be a transient finding during acute illness and if the platelet count is > 50 x 10^9/L, the test should be repeated in 4-6 weeks before further investigation if the patient is otherwise well.
- A platelet count of > 50 x 10^9/L is rarely associated with a bleeding tendency in the absence of a haemostatic challenge.
- HIV infection may be associated with thrombocytopenia and is an important diagnosis to exclude in patients with persistent thrombocytopenia.

Causes

Immune	ITP: diagnosis of exclusion.
Bone marrow failure	Metastatic cancer, MDS/ haematological malignancy, B12/ folate deficiency
Drugs / toxins	Alcohol, numerous drugs including heparin, quinine, PPIs
Acute viral infection	
Chronic viral infection	HIV, Hepatitis B/C
Auto-immune disorder	Systemic Lupus Erythematosus (SLE), Rheumatoid arthritis, Antiphospholipid antibody syndrome
Liver disease	
Hypersplenism	
Acute illness	Sepsis, Disseminated intravascular coagulation (dic)
Microangiopathic haemolytic anaemias	Thrombotic thrombocytopenic purpura(TTP)/ haemolytic uraemic syndrome (HUS)

History

Important Features include:

- Review any newly started medications
- Any recent infections
- Risk factors for HIV or hepatitis C

- Alcohol history
- Bleeding history
- Currently on antiplatelet or anticoagulant

Symptoms and Signs

- Are there constitutional symptoms suggestive of malignancy (fever, weight loss, night sweats)
- Assess for features of liver disease
- Assess for lymphadenopathy and hepatosplenomegaly

Investigations

<table>
<tr><th>First line investigations</th><th>Further investigations if persistent true thrombocytopenia</th></tr>
<tr><td>Repeat the FBC: To confirm the presence of a true thrombocytopenia. Platelet clumping is a common cause of “pseudothrombocytopenia”. The FBC should be repeated in a citrate sample.</td><td>B12/folate</td></tr>
<tr><td rowspan="4">Blood film: To look for evidence of other abnormal blood film features that will provide a clue to the cause of the thrombocytopenia eg. Dysplastic changes, leuco-erythroblastic features, megaloblastic changes, reactive lymphocytes consistent viral infection or lymphoproliferative disorder.
The blood film is usually otherwise normal in immune thrombocytopenia and the patient usually otherwise clinically well</td><td>LFT including gamma glutamyl transferase</td></tr>
<tr><td>Clotting screen</td></tr>
<tr><td>Virology: HIV, Hepatitis B/C</td></tr>
<tr><td>Auto-antibody screen: ANA, anti-phospholipid antibodies (anticardiolipin antibodies and lupus anticoagulant)</td></tr>
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Referral

- Platelet count < 20 x 10^9/L: discuss with Haematologist directly for urgent referral
- Platelet count < 50 x 10^9/L confirmed on a repeat sample at least 4 weeks apart
- Platelet count 50-100 x 10^9/L if bleeding symptoms, On anticoagulant or anti-platelet medications, Systemically unwell, Other cytopenias/ abnormal blood film, Pregnant, unexplained splenomegaly or awaiting surgery
- If platelets 50-150 and do no require referral (as above) suggest repeat FBC in 6 weeks. If FBC unchanged monitor in primary care every 4 months to ensure no deterioration or other abnormalities become apparent. Patients should represent if new bleeding or bruising or constitutional symptoms occur.

References

1) Smellie WSA et al. Best practice in primary care pathlogy: review 3. J Clin Pathol 2006;59:781-789.
2) Bradbury C et al. Investigating an incidental finding of thrombocytopenia. BMJ 2013;346:f11.