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**Thrombocytopenia**

**Presentation**

Definition

Platelet count < 150 x 109/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 109/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 109/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**

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| 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**

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| First line investigations | Further investigations if persistent true thrombocytopenia |
| 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. | B12/folate |
| Blood film: To look for evidence of other abnormal blood film features that will provide a clue to the cause of the thrombocytopenia e.g. Dysplastic changes, leucoerythroblastic 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 | LFT including gamma glutamyl transferase (GGT) |
| Clotting screen |
| Virology: HIV, Hepatitis B/C |
| Auto-antibody screen: ANA, anti-phospholipid antibodies (anticardiolipin antibodies and lupus anticoagulant) |

**Referral**

* Platelet count < 20 x 109/L: discuss with Haematologist directly for urgent referral
* Platelet count < 50 x 109/L confirmed on a repeat sample at least 4 weeks apart
* Platelet count 50-100 x 109/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 pathology: review 3. J Clin Pathol 2006;59:781-789.
2. Bradbury C et al. Investigating an incidental finding of thrombocytopenia. BMJ 2013;346:f11.