NHS

South West Strategic Clinical Network

Somerset, Wiltshire, Avon and Gloucestershire (SWAG) Cancer Services

Thrombocytopenia

Definition

Platelet count <150 x 10^9/L. 2.5% of the normal population will have a platelet count lower than this. A recent fall in platelets by 50% may be abnormal even if the count is within the normal range.

Table 1 Common causes of thrombocytopenia

Causes of thrombocytopenia
Pseudothrombocytopenia (caused by Platelet clumping due to EDTA antibodies or failing to count large platelets)
Decreased production of platelets
Alcohol
Drugs (Gold, H_2-antagonists, diuretics, oral hyopglycaemics, digoxin)
Vitamin B12 and folate deficiencies
Infection: Viral (HIV)
Chemotherapy /radiotherapy
Haematological:
• Bone marrow infiltration (leukaemia, lymphoma, myeloma & metastases)
• Myelodysplasia
• Aplastic anaemia
Increased platelet destruction
Infective:
• Bacterial (streptococcus, tuberculosis, Helicobacter pylori)
• Viral (EBV, Hepatitis C, HIV, Rubella, Varicella Zoster virus)
• Protozoan (malaria)
Drugs (heparin, quinine, Valproic acid)
Massive Haemorrhage +/- Transfusion
Immune thrombocytopenia
Thrombotic Thrombocytopenic purpura (TTP) & Haemolytic uraemic syndrome (HUS)
Distributional (splenomegaly)
Liver Disease

Important features of the history and examination

- Review any newly started medication
- Ask about recent infections
- Ask about risk factors for HIV and Hepatitis C
- Assess alcohol history
- Are there any constitutional symptoms suggestive of malignancy (fever, weight loss, night sweats)
- Assess for features of liver disease
- Assess for lymphadenopathy

Initial investigations

- Repeat the FBC (In the presence of platelet clumping a citrated sample is more accurate)
- Request a blood Film
- Coagulation screen

Management

Table 2 Management of thrombocytopenia

Platelet count & history/investigations	Action
50-150 x10^9/l **AND** isolated thrombocytopenia, normal blood film, no lymphadenopathy no constitutional symptoms	Repeat bloods 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
<150 x x10^9/l **AND** Constitutional symptoms/ lymphadenopathy/splenomegaly/ abnormal blood film	Refer to haematology
<50 x10^9/L **OR** symptomatic isolated thrombocytopenia (petechial rash, purpura, mucosal bleeding in the absence of constitutional symptoms)	Review medication for drug induced thrombocytopenia Refer to haematology if ITP appears more likely
<20 x10^9/L **OR** severe bleeding or red cell fragments or blasts on the peripheral blood film	Contact haematology immediately

References

1. Bradbury C & Murray J. Investigating an incidental finding of thrombocytopenia. *BMJ* 2013; 346: f11
2. Provan D, Singer CRJ, Baglin T and Lilleyman J. Numerical abnormalities of platelets – thrombocytopenia. *Oxford Handbook of Clinical Haematology*. 2nd ed. 384-387
3. Landaw SA, & George JN. Approach to the adult patient with thrombocytopenia. *UpToDate*. Available: http://www.uptodate.com/contents/approach-to-the-adult-patient-with-thrombocytopenia (Accessed September 2013)