South West Strategic Clinical Network
Somerset, Wiltshire, Avon and Gloucestershire (SWAG) Cancer Services

Thrombocytosis

Definition

Platelet count >450 x 10^9/l

Causes

Thrombocytosis may be due to a primary bone marrow condition or a secondary reactive cause.

Table 1 Common causes of thrombocytosis

Primary	Secondary/ Reactive
Myeloproliferative Neoplasm (MPN) • Chronic myeloid leukaemia (CML) • Polycythaemia rubra vera, (PRV) • Primary myelofibrosis (PMF) • Essential thrombocythaemia (ET) Myelodysplastic syndrome(MDS) with del(5q) MDS/MPN overlap syndromes • CMML • RARS-T • MDS/MPN-U	• Haemorrhage • Inflammation and infection • Iron deficiency • Acute haemolytic anaemia • Malignancy • Hyposplenism • Stress e.g. MI, burns • Iatrogenic (corticosteroids, adrenaline, TPO agonists)

Spurious – microspherocytes, schistocytes, bacteria, pappenheimer bodies, neoplastic cell cytoplasmic fragments

Investigation

- Important clinical features to ascertain whether there is a secondary cause for the thrombocytosis (see table above)
- Features more suspicious of primary cause include thrombosis (especially if in abdominal vein)/haemorrhage, erythromelalgia, weight loss, sweats and palpable splenomegaly
- Suggest check:

1. ferritin
2. blood film
3. CRP
4. repeat FBC

- If secondary cause found suggest repeat FBC once underlying cause has resolved/been treated
- If persistent thrombocytosis despite secondary causes excluded or suspicious of primary bone marrow aetiology, suggest referral to clinical haematology

MPN-ET (Briefly)

- Clonal bone marrow disorder with around 50% of cases are positive for mutation in the JAK2 gene (V617F in exon 14). ~10% have MPL (W515K in exon 10) mutation.

- Can manifest systemically with weight loss and sweats as well as bleeding, thrombosis or erythromelalgia.

- Treatment is based on risk stratification for thrombosis. Pharmacological cytoreduction employed with life long 75mg PO OD aspirin.

- There is a risk of progression to myelofibrosis, or transformation to AML in the long term.

References

Guideline for the investigation and management of adults and children presenting with thrombocytosis. Harrison et al. British Journal of Haematology. 2010. 149;3: 352-375