NATIONAL LABORATORY HANDBOOK

Laboratory Testing for Full Blood Count- Thrombocytopaenia

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National Clinical & Integrated Care Programmes
Person-centred, co-ordinated care

PATHOLOGY

ROYAL COLLEGE OF PHYSICIANS OF IRELAND

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Scope

The aim of this guideline is to provide guidance to GPs on when to refer patients with low platelets. These guidelines apply to adult, non-pregnant patients.

Key recommendations

- The finding of abnormalities in more than one lineage may be more significant than in a single lineage and may suggest a bone marrow cause.
- It is often appropriate to monitor the FBC for progression over time rather than referring a patient based on one abnormal result.
- Always consider early referral when the patient is unwell.

Background

A full blood count (FBC) is commonly requested at a general check-up and when patients complain of non-specific symptoms. Abnormalities are often non-specific and may not necessarily reflect haematological disorders. Results must be interpreted with reference to the clinical picture and other pathology results.

Platelets are produced in the bone marrow from precursor cells called megakaryocytes. Their function is in haemostasis. They circulate for one to two weeks and are destroyed in the liver and spleen. Thrombocytopenia is defined as a platelet count < 150 x 10^9/L. Most patients with counts of > 50 x 10^9/L are asymptomatic, with the risk of spontaneous haemorrhage increasing significantly below 20 x 10^9/L. The clinical context should always be considered, artefactual causes such as platelet clumping *in vitro* or partial clotting of the sample (pseudothrombocytopaenia) will be assessed automatically by laboratory staff with a blood film.

Referral guidelines

When to consider urgent referral to haematology

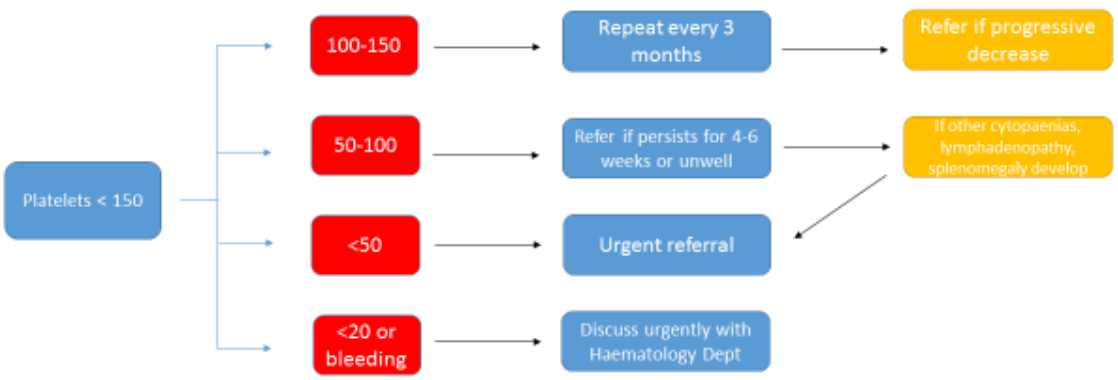
- Platelet count < 50 x 10^9/L.
- Platelet count 50 - 100 x 10^9/L in association with:
  - Other cytopenia (Hb < 10g/dL, Neutrophils < 1 x 10^9/L),
  - Splenomegaly,
  - Lymphadenopathy,
  - Pregnancy.

When to consider routine referral

- Persistent (at least on two occasions 4-6 weeks apart, no clumping noted on the blood film), unexplained thrombocytopenia < 100 x 10^9/L.

Investigations to consider when urgent referral not deemed appropriate

- Blood film examination and reticulocyte count.
- LFTs, LDH, ANA.
- Ferritin, B12 and folate.
- Immunoglobulins and protein electrophoresis.
- Alcohol and medication history.
- HIV/hepatitis serology (consider hepatology/infectious disease referral if positive).
- Repeat FBC in 4-6 weeks.



Guideline Development Methodology - Consultation Plan and History

The guideline was drafted by the author, following which expert consultation with the National Clinical Programme for Pathology (NCPP) Working Group for Haematology was undertaken. Following incorporation of feedback, the guideline was submitted to the full NCPP Consultation Process.

References

1. NHS North Central London Abnormal FBC results guideline.
2. Basildon and Thurrock University Hospitals- Thrombocytopaenia GP referral guidelines.