RM Partners
West London Cancer Alliance
Hosted by The Royal Marsden NHS Foundation Trust

NHS

Rapid Diagnostic Centre Approach to Anaemia

Quick Reference Guide

Background

Anaemia is defined as a haemoglobin (Hb) of <130 g/L in an adult male or <120 g/L in an adult female. Iron deficiency should be investigated further to look for a cause of blood loss (e.g. gastroenterology, gynaecology, urology).

An urgent haematology referral would be indicated with:

1. Leucoerythroblastic anaemia (based on blood film)
2. Unexplained, progressive symptomatic anaemia (Hb <100 g/L)
3. Anaemia associated with splenomegaly, lymphadenopathy or other cytopaenias

Suggested Approach

- A careful history, focusing on duration, symptoms, bleeding, diet, medication and family history.
- Medical conditions: Inflammatory bowel disease, rheumatoid arthritis, coeliac disease, renal disease, segmental colitis with diverticulosis, SLE (6).

<u>Investigations</u>

- Be aware of historic bloods to establish a trend.
- Bloods: FBC, blood film and reticulocyte count, DAT, LDH
- Ferritin, B12 (active B12), folate, serum iron, TIBC, transferrin saturation (will be more informative than ferritin if there is an inflammatory component)
- Immunoglobulins, protein electrophoresis, serum freelites, Bence Jones protein
- Renal and liver, thyroid function, bone profile, HbA1c
- Haemoglobinopathy screen
- CRP, PSA (males), CA125 (females), coeliac screen (if not previously performed)
- Virology (parvovirus, Hep B, Hep C, CMV, EBV, HIV)

A) <u>Iron deficiency anaemia (microcytic anaemia with low ferritin, low transferrin saturation):</u>

May be due to blood loss or poor oral intake including inadequate absorption (eg gastric bypass)

- Quantitative FIT test
- Upper and lower GI endoscopy
- CT TAP
- Exclude other causes if no GI pathology found to explain iron deficiency eg.
    - History of menorrhagia
    - Malabsorption eg previous bariatric surgery
    - Post-menopausal bleeding -Consider organising a trans-vaginal ultrasound
    - History of haematuria- TWR referral to Urology.

Treatment:

1) Replace iron completely – if oral iron not tolerated consider referral for parenteral iron
2) Re-check Hb in 6-8 weeks after iron is given – if does not go up then refer to Gastro for capsule
3) If capsule NAD – consider haematology

B) <u>Anaemia of chronic disease (normocytic anaemia with raised inflammatory markers, with normal to raised ferritin but low transferrin saturation)</u>

Anaemia associated with an inflammatory state which impairs the utilisation of stored iron resulting in reduced production of RBC leading to anaemia.

Consider:

- Identify malignancy (both solid tumours and haematological)
- Autoimmune conditions (SLE, RA, vasculitis, sarcoid, IBD)
- Chronic renal failure
- Chronic heart failure
- Metabolic disease (diabetes)
- Infections (viral, bacteria, parasitic, fungal)
- Hypermetabolic states (thyroid, pituitary disorders)

C) **Macrocytic anaemias** (anaemia with high MCV)

i) <u>Megaloblastic:</u>

- B12 and folate deficiency
- Myelodysplastic syndrome

ii) <u>Non-megaloblastic:</u>

- Excess alcohol consumption
- Liver disease
- Hypothyroidism
- Aplastic anaemia
- Paraproteinaemia/myeloma
- Pregnancy
- Haemolysis

References

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