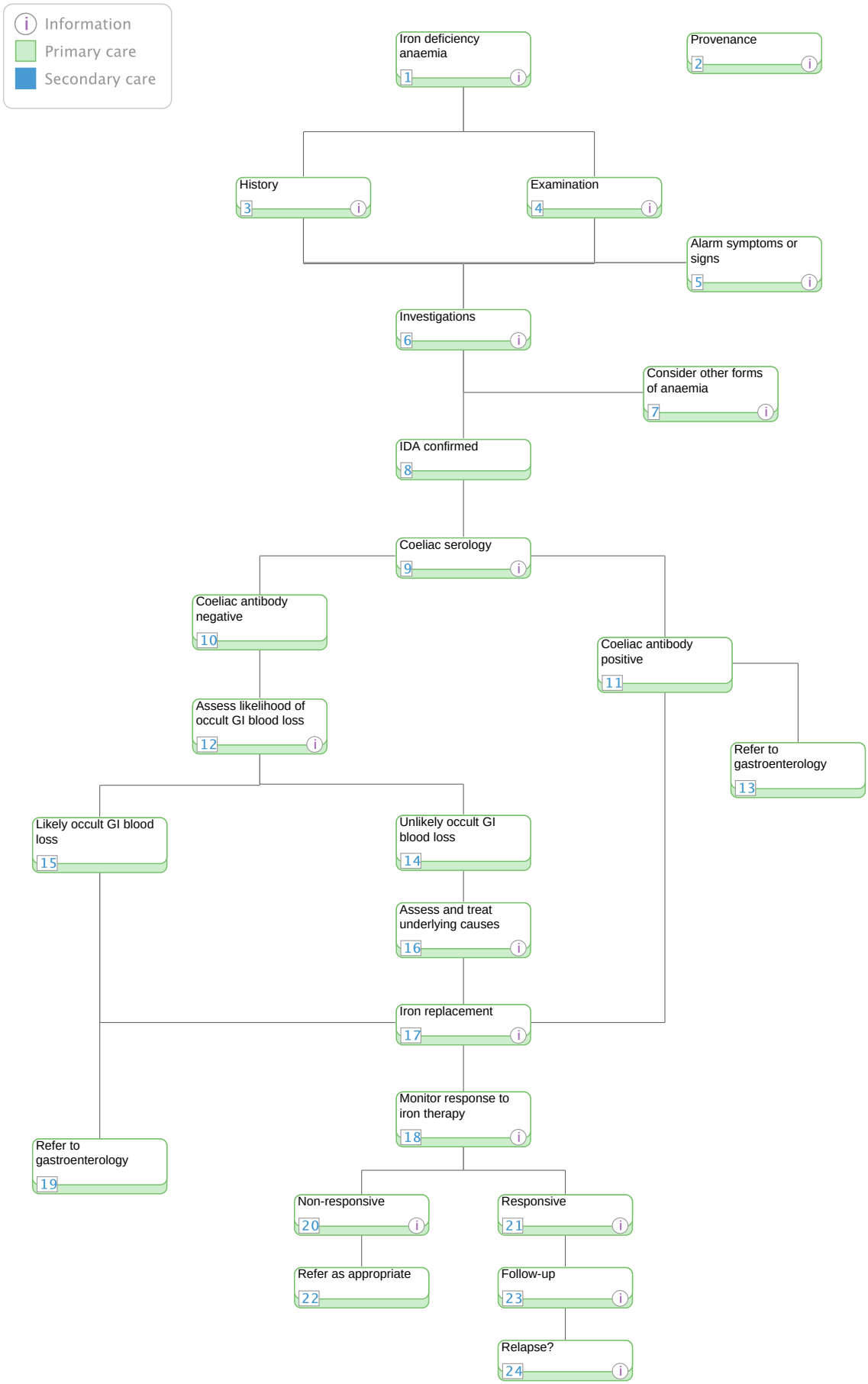
Iron deficiency anaemia

Medicine > Haematology and haemostasis > Iron deficiency anaemia - draft



Published: Valid until: Printed on: 17-Nov-2011

This care map was published by . A printed version of this document is not controlled so may not be up-to-date with the latest clinical information.

Iron deficiency anaemia

1 Iron deficiency anaemia

Quick info:

IDA in adults

Characteristics:

- anaemia with low serum ferritin and/or
- anaemia responding to iron therapy

Associations:

- menorrhagia
- gastrointestinal (GI) blood loss
- GI iron malabsorption
- genito-urinary symptoms
- diet
- obvious blood loss
- blood donation

Key management points:

- serum ferritin is usually the only test required to confirm a diagnosis of IDA
- in chronic disease (e.g. with raised CRP) ferritin may be falsely normal and Hb response (1 g/dl in 2 weeks) to iron therapy is used as evidence of IDA
- all patients with a diagnosis of IDA should
  - be screened for coeliac disease with a serological blood test
  - have urinalysis performed for haematuria

All

- males and
- non-menstrurating females and
- menstruating females with GI symptoms or a strong family history of GI cancer* or aged 50 and over

should be referred to a gastroenterologist for further investigations, urgently if cancer is suspected

*strong FH of cancer = one first degree relative diagnosed under age 45 or two affected first degree relatives

References:

Clinical Knowledge Summaries (CKS). Anaemia – Iron Deficiency. Newcastle Upon Tyne: CKS; 2009.

British Society of Gastroenterology (BSG). Guidelines for the management of iron deficiency anaemia. London: BSG; 2005.

2 Provenance

Quick info:

Last updated 17th Nov 2011

Authors:

Dr J Huddy GPSI gastro

Dr Noble, Consultant Haematologist

Drs Michell, Murray, Hussaini, Dalton, Beckly, Fortun, Stableforth. Consultant Gastroenterologists

Royal Cornwall Hospital, 2011

3 History

Quick info:

Consider the cause of the anaemia

- gastrointestinal alarm and non-alarm symtoms
- menstrual history
- malabsorption

Published: Valid until: Printed on: 17-Nov-2011

- nutritional deficiency
  - vegetarians are at increased risk of IDA
  - rarely a cause unless increased demands e.g. adolescents, pregnancy, lactation, menstruation
- NSAIDs / aspirin / warfarin
- haematuria (dipstick urine)
- blood donation

4 Examination

Quick info:

Abdominal examination including PR examination

Dipstick urine for haematuria (1% of IDAs will have a renal tract malignancy)

5 Alarm symptoms or signs

Quick info:

Urgent 2 week referral to gastroenterology for those with alarm features of

Upper GI cancer:

- dysphagia
- unintentional weight loss
- persistent vomiting
- epigastric mass
- age > 55 with unexplained and persistent recent onset dyspepsia
- upper GI cancer referral proforma - click here

Lower GI cancer:

- Hb < 11g/dl in men and < 10g/dl in non-menstruating women
- R abdominal mass
- intraluminal (not pelvic) rectal mass
- >6w rectal bleeding *and* loose stools age 40-60
- >6w rectal bleeding alone age > 60
- >6w loose stools alone age > 60
- lower GI cancer referral proforma - click here

6 Investigations

Quick info:

To diagnose IDA:

Perform ferritin and CRP

IDA is defined by a low serum ferritin or haemoglobin that responds to iron therapy (1 g/dl over 2 weeks)

Serum ferritin is a marker of total body stores of iron however ferritin is an acute phase reactant so maybe falsely normal in the context of chronic disease

- ferritin < 15 mcg/l defines IDA
- ferritin 15-30 mcg/l with a normal CRP or 15-70mcg/l with a raised CRP is an equivocal result - it might be IDA and would warrant a trial of iron
- ferritin > 30 mcg/l with a normal CRP or >70 mcg/l with a raised CRP is seldom IDA - if in doubt give trial of iron

If the ferritin result is equivocal then give a trial of iron: give iron sulphate 200mg once a day for a week then twice a day for a week. The Hb will increase by 1g/dl or more over these 2 weeks if the patient is iron deficient.

Dipstick urine for haematuria (1% of IDAs will have anaemia due to a renal tract malignancy)

Published: Valid until: Printed on: 17-Nov-2011

7 Consider other forms of anaemia

Quick info:

Anaemias most commonly confused with iron deficiency anaemia (IDA):

- anaemia of chronic disease which is normocytic or mildly hypochromic:
  - ferritin is normal to high
  - distinguished by being refractory to iron therapy
- thalassaemia trait:
  - normal ferritin levels
  - disproportionately low mean corpuscular volume (MCV) level for severity of anaemia
  - perform haemoglobin electrophoresis to confirm diagnosis:

9 Coeliac serology

Quick info:

Perform coeliac serology (anti-tissue transglutaminase antibody)

If the clinician suspects cancer do not delay referral pending this result (this test takes 10-14days @ RCH)

12 Assess likelihood of occult GI blood loss

Quick info:

Those **likely** to have occult GI blood loss are:

- men
- non-menstruating women
- menstruating women with
  - GI symptoms or
  - strong family history of GI cancer* or
  - age 50 or over

Those **unlikely** to have occult GI blood loss are:

- menstruating women under 50 with no GI symptoms and no strong family history of GI cancer*

*strong FH of cancer = one first degree relative diagnosed under age 45 or two affected first degree relatives

16 Assess and treat underlying causes

Quick info:

Consider

- heavy menstrual bleeding
- haematuria
- nutritional causes
- other evidence of blood loss

17 Iron replacement

Quick info:

Give ferrous sulphate 200mg once a day for a week then twice a day to continue

Haemoglobin concentration should rise by about 2g/dL every 3 weeks

If ferrous sulphate is not well tolerated (nausea, constipation, diarrhoea) then

Published: Valid until: Printed on: 17-Nov-2011

- drop the dose to once a day or
- take with food (which will reduce iron absorption by 40%) or
- change to a different iron preparation (eg ferrous fumarate, ferrous gluconate or iron suspensions) which may be tolerated better than ferrous sulphate
- add ascorbic acid 50mg/day to improve absorption

If iron cannot be tolerated orally then intravenous iron can be given in hospital as a day case procedure

Blood transfusion is a last resort in severe anaemia

NB: Be aware that oral iron may adversely reduce absorption of other medications - see BNF

18 Monitor response to iron therapy

Quick info:

Check full blood count (FBC) 2-4 weeks after starting iron (earlier if symptoms are severe) to assess response to treatment:

Hb should rise by about 2g/dL every 3 weeks

Recheck thereafter according to clinical judgment

Oral iron should be taken until the haemoglobin concentration returns to normal **and then for a further 3 months** to replenish body stores then stop iron

BSG suggests checking Hb and MCV 3 monthly for a year then after another 12 months

If Hb or MCV drop below normal then oral iron should be given again (reserve ferritin testing for when there is a doubt)

Further investigation is only necessary if the Hb and MCV cannot be maintained in this way

20 Non-responsive

Quick info:

Consider further investigation when iron replacement fails if:

- patient concordance is adequate (most common cause of treatment failure)
- iron dosage prescribed is sufficient

Reconsider diagnosis in patients who fail to respond to iron replacement therapy and consider re-testing for B12.

21 Responsive

Quick info:

If anaemic symptoms and blood tests improve with iron replacement, no further investigation is recommended.

23 Follow-up

Quick info:

Continue iron supplements for **3 months after full blood count (FBC) tests have returned to normal**

Routinely test every 3 months for 1 year, then again after 1 year

24 Relapse?

Quick info:

If Hb or MCV drop below normal then oral iron should be given again (reserve ferritin testing for when there is a doubt of iron deficiency)

Further investigation is only necessary if the Hb and MCV cannot be maintained in this way

Thank you

Published: Valid until: Printed on: 17-Nov-2011

Iron deficiency anaemia

Key Dates

Published: , by
Valid until:

Evidence summary for Iron deficiency anaemia

