Approaches in Hematology

Hematology Made Easy

Recommendations of BSG guidelines 2021 on the management of IDA

فقر الدم نتيجة نقص الحديد في ضوء التوجيهات البريطانية والأمريكية

❖ *Definitions*

- We recommend that anemia is defined as hemoglobin (Hb) concentration below the lower limit of normal for the relevant population and laboratory performing the test (< 13) in males & (< 12)in non-pregnant females.

- We recommend that iron deficiency should be confirmed by iron studies prior to investigation. Serum ferritin is the single most useful marker of IDA, but other blood tests (e.g., transferrin saturation) can be helpful if a false-normal ferritin is suspected.

- We recommend that a good response to iron therapy (Hb rise ≥10 g/L within a 2-week timeframe) in anemic patients is highly suggestive of absolute iron deficiency, even if the results of iron studies are equivocal.

❖ *Initial clinical assessment*

- We recommend taking a detailed history, as it may provide important clues as to the cause(s) of IDA in the individual The history is very significant.

- We recommend that initial investigation of confirmed IDA should include urinalysis or urine microscopy, screening for coeliac disease (CD) and in appropriate cases, endoscopic examination of the upper and lower GI tract.

    - Urine analysis & microscopy are to exclude hematuria & hemoglobinuria.
    - Celiac Disease is found in 3%–5% of cases of IDA, and we recommend that it should be routinely screened for serologically, or on small bowel biopsy at the time of gastroscopy. Celiac disease نادر في مصر ولكنه وارد الحدوث

- Age, sex, Hb concentration, and mean cell volume are all independent predictors of risk of GI cancer in IDA and need to be considered as part of a holistic risk assessment. It follows that the cancer risk in iron deficiency without anemia is low.

- We recommend that in men and postmenopausal women with newly diagnosed IDA, gastroscopy and colonoscopy should generally be the first-line GI investigations. In those not suitable for colonoscopy, CT colonography is a reasonable alternative.

Follow-up and recurrent IDA

- Hb levels normalize with iron replacement therapy (IRT) in most cases of IDA, but IDA recurs in a minority of these on long-term follow-up.

- Further evaluation of the small bowel
  - In those with negative bidirectional endoscopy of acceptable quality and either an inadequate response to IRT or recurrent IDA, we recommend further investigation of the small bowel and renal tract to exclude other causes.

  - We recommend capsule endoscopy as the preferred test for examining the small bowel in IDA because it is highly sensitive to mucosal lesions. CT/MR enterography may be considered in those not suitable, and these are complementary investigations in the assessment of inflammatory and neoplastic disease of the small bowel.

  - After a negative capsule endoscopy of acceptable quality, we recommend that further GI investigation needs to be considered only if there is ongoing IDA after IRT (Iron replacement therapy).

  - We recommend that long-term IRT may be an appropriate strategy when the cause of recurrent IDA is unknown or irreversible.

Treatment of IDA

$\mathcal{R}$ We recommend that IRT should not be delayed while waiting for investigations for IDA unless a colonoscopy is imminent.

$\mathcal{R}$ We recommend that the initial treatment of IDA should be with one tablet per day of ferrous sulfate, fumarate, or gluconate. If not tolerated, a reduced dose of one tablet every other day, alternative oral preparations or parenteral iron should be considered.

- Limited transfusion of packed red cells may on occasion be required to treat symptomatic IDA, in which case IRT is still necessary post-transfusion.

$\mathcal{R}$ We recommend that patients should be monitored in the first 4 weeks for a Hb response to oral iron, and treatment should be continued for a period of around 3 months after normalization of the Hb level, to ensure adequate repletion of the marrow iron stores.

$\mathcal{R}$ We recommend that parenteral iron should be considered when oral iron is contraindicated, ineffective, or not tolerated (SE: constipation, abdominal pain). This consideration should be at any early stage if oral IRT is judged unlikely to be effective.

- There is insufficient evidence to support invasive investigation in non-anemic iron deficiency unless there are additional indications. but periodic blood count monitoring is suggested.

$\mathcal{R}$ After the restoration of Hb and iron stores with IRT, we recommend that the blood count should be monitored periodically (perhaps every 6 months initially) to detect recurrent IDA.

Special situations

- Young women
  - IDA is common in young women, and major contributory factors include menstrual losses, pregnancy, and poor dietary intake.
  - Underlying GI pathology is uncommon in young women with IDA, and so after screening for CD, we recommend that further investigation is warranted only if there are additional clinical features of concern.
  - If GI investigation in a pregnant woman is deemed necessary prior to delivery, gastroscopy and (after the first trimester) MR enterography are considered safe in pregnancy.
- Young men
  - Confirmed IDA is uncommon in young men, but when found we recommend that it warrants the same investigational algorithm as for older people.
- Elderly people
  - Iron deficiency is common in the elderly and is often multifactorial in etiology.
  - We recommend that the risks and benefits of invasive endoscopic and alternative investigation(s) are carefully considered in those with significant comorbidities and/or limited performance status.
- Specific comorbidities
  - Functional iron deficiency (FID) is a common contributory factor to the anemia associated with advanced chronic kidney disease (CKD).
  - Iron deficiency is common in chronic heart failure (CHF) and is often multifactorial.
  - Parenteral IRT may improve symptoms and quality of life in CHF with FID (functional iron deficiency).
  - IDA is a common manifestation of IBD, particularly when the disease is active.
  - Intolerance and malabsorption of oral IRT can be particular problems in the treatment of IBD-associated IDA, and parenteral IRT may be required.
- GI surgery
  - IDA is common following resection or bypass surgery involving the stomach and/or small bowel, including bariatric surgery.
  - In new presentations of IDA, we recommend that a history of GI or bariatric surgery should not preclude a search for other causes of IDA.

Guidelines from the American Gastroenterological Association on the evaluation of iron deficiency anemia include the following recommendations:

- In patients with anemia, a cutoff of 45 ng/mL is recommended over 15 ng/mL when using ferritin to diagnose iron deficiency.
- In asymptomatic postmenopausal women and men with iron deficiency anemia, bidirectional endoscopy is recommended over no endoscopy.
- In asymptomatic premenopausal women with iron deficiency anemia, bidirectional endoscopy is suggested over iron replacement therapy only.
- In patients with iron deficiency anemia without other identifiable etiology after bidirectional endoscopy, noninvasive testing for Helicobacter pylori, followed by treatment if positive, is suggested over no testing.
- In patients with iron deficiency anemia, we suggest against routine gastric biopsies to diagnose atrophic gastritis.
- In asymptomatic adults with iron deficiency anemia and plausible celiac disease, initial serologic testing, followed by a small bowel biopsy only if positive, is suggested over routine small bowel biopsies.
- In asymptomatic patients with uncomplicated iron deficiency anemia and negative results on bidirectional endoscopy, a trial of initial iron supplementation is suggested over the routine use of video capsule endoscopy.