Anaemia Alert

Anaemia – The Most Common Blood Condition

Anaemia is a common blood condition which occurs when we do not have enough red blood cells in our body. We need red blood cells to carry oxygen from our lungs to our body's cells. Anaemia can affect our general well-being, reduce our energy levels or worsen pre-existing medical conditions such as heart disease and lung disease.

In the early stages of anaemia, many people may have no symptoms at all, especially if they are young or generally fit. However, there are still some common signs and symptoms that we can look out for. They include:

- Shortness of breath on slight exertion.
- Feeling fatigued and low in energy levels.
- Chest pain - This can occur in severe anaemia, especially for persons with underlying heart problems.
- Pale skin - This is especially obvious over the palms. Pallor under the eyelids can also be appreciated in patients with significant anaemia.
- Dizziness, especially after some exertion.
- Palpitations.
- Headaches.

CAUSES OF ANAEMIA

Anaemia can develop when there is excessive blood loss, reduced production of red blood cells or increased destruction of red blood cells.

Of these three categories, excessive blood loss is the most common cause of anaemia. The two most common sites/causes of blood loss are the gastrointestinal tract and through menstrual loss. If the blood loss becomes chronic, iron deficiency anaemia would ensue. As we lose blood, we lose iron. Iron is an essential component of haemoglobin and is required for continuous production of haemoglobin. Patients will experience significant anaemia, and suggestion of blood loss will often require a referral to a gastroenterologist, and/or an O&G specialist.

Essential nutrients such as vitamin B12, folic acid and iron are required for healthy production of red blood cells and haemoglobin. Certain dietary restrictions such as being vegan or vegetarian may result in vitamin B12 deficiency. Hence, appropriate vitamin B12 supplementation is important for individuals on these kinds of diet. Individuals with chronic intestinal absorption issues may also develop anaemia due to lack of vitamin B12 or folate.

Blood loss can also lead to iron deficiency and eventually results in reduced production of red blood cells. Many women of child bearing age suffer from iron deficiency anaemia due to a lack of iron in the diet as well as monthly blood (and iron) loss from their menstrual cycle. A variety of bone marrow diseases can also suppress the production of red blood cells from the bone marrow, including conditions like myelodysplastic syndrome, aplastic anaemia, leukaemia, infiltration by cancer cells, etc. These are serious but fortunately, relatively uncommon causes of anaemia.

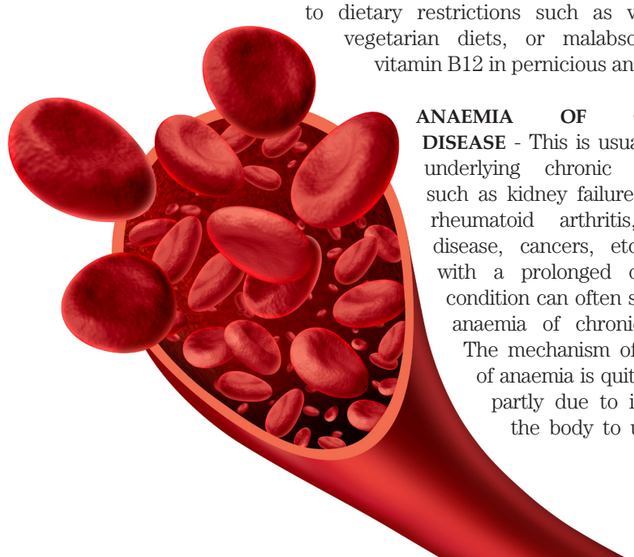
In some rare blood conditions, red blood cells are being destroyed more easily and this results in anaemia. This can be due to acquired conditions such as autoimmune haemolytic anaemia, heat stroke, and drug-related or inherited blood disorders such as thalassemia.

COMMON TYPES OF ANAEMIA

There are actually different types of anaemia and some of the most common ones include:

IRON DEFICIENCY ANAEMIA – This is the most common type of anaemia. It is more common in premenopausal women due to menstrual blood loss. Men are less commonly affected, but if it happens, further evaluation of the cause of iron deficiency is needed. Endoscopy is usually required to exclude a possible stomach ulcer or tumour in the colon.

VITAMIN B12 OR FOLATE DEFICIENCY ANAEMIA - Also known as megaloblastic anaemia, these can be due to dietary restrictions such as vegan and vegetarian diets, or malabsorption of vitamin B12 in pernicious anaemia.



ANAEMIA OF CHRONIC DISEASE - This is usually due to underlying chronic conditions such as kidney failure, diabetes, rheumatoid arthritis, Crohn's disease, cancers, etc. Anyone with a prolonged debilitating condition can often suffer from anaemia of chronic disease. The mechanism of this type of anaemia is quite complex partly due to inability of the body to utilise iron or lack of erythropoietin (the hormone that stimulates red blood cell production).

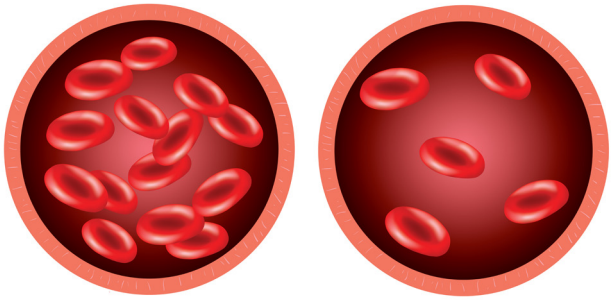
THALASSEMIA - This is a group of inherited blood conditions which cause abnormal production of defective red blood cells. There are two common types: Alpha-Thalassemia and Beta-Thalassemia. They can present with a mild and asymptomatic form of thalassemia minor or thalassemia major, which is a severe anaemia requiring regular blood transfusion from young.

RISK FACTORS AND DIAGNOSIS OF ANAEMIA

The major risk factors that may lead to an increased chance of anaemia include the following:

- Antiplatelet therapy, such as aspirin or other blood thinning therapies, which may increase the risk of bleeding and anaemia.
- Women with uterine fibroids and heavy menstrual flow may develop iron deficiency anaemia easily if no appropriate iron supplement is taken.
- Family history of inherited anaemia, such as thalassaemia.
- People with malabsorption problem.
- Pregnant women.
- Dietary restrictions, such as vegan or vegetarian diets.

> The treatment of anaemia needs to be directed to the underlying cause. For example, a woman with history of heavy menses should consult a gynaecologist, while a male with unexplained iron deficiency anaemia should be referred for endoscopy and colonoscopy to exclude an underlying cause of gastrointestinal blood loss.



A simple full blood count would demonstrate haemoglobin levels. A full blood count can also tell whether the white blood cells or platelets are normal in number. A microscopic examination of a blood film can often suggest the underlying cause of the anaemia, such as iron deficiency, B12 deficiency, thalassemia, leukaemia etc. More specific blood tests can then be ordered based on the patient's medical history, physical examination by a doctor and the findings of an initial full blood count. These additional blood tests may include:

- Iron studies.
- Vitamin B12 and folate level tests.
- Reticulocyte Count - A measurement of young red blood cells, which is usually low in anaemia related to reduced production, and high in anaemia due to acute blood loss or haemolysis.
- LDH and Bilirubin Level Tests - These are often elevated in anaemia related to haemolysis.

In more difficult cases such as anaemia due to bone marrow failure or other blood disorders, a bone marrow aspiration and biopsy may be required.

TREATMENT OF ANAEMIA

The treatment of anaemia needs to be directed to the underlying cause. For example, a woman with history of heavy menses should consult a gynaecologist, while a male with unexplained iron deficiency anaemia should be referred for endoscopy and colonoscopy to exclude an underlying cause of gastrointestinal blood loss. For iron deficiency anaemia, oral or intravenous iron therapy can be used to replenish the body's iron stores. Oral iron supplements will take up to 6 months to fully correct the underlying iron deficiency. However, some people may not tolerate the side effects of the supplementation, which includes abdominal pain and constipation. Intravenous iron infusion is a good option for those who are intolerant to oral iron supplements or when a quick iron replenishment is required.

Oral vitamin B12 and folate supplements can be given to those with anaemia due to deficiency in these nutrients. If the vitamin B12 deficiency is due to inability to absorb vitamin B12, intramuscular injection of vitamin B12 should be given. The replacement is usually long-term unless the underlying cause of the vitamin B12 deficiency is fully resolved.

PREVENTION OF ANAEMIA

Ensuring a diet rich in vitamin B12, folate and iron would minimise the risk of nutritional anaemia. The best food sources of iron include beef and other red meats, beans, lentils, iron-fortified cereals, dark green leafy vegetables, dried fruit, nuts and seeds. Folate can be found in citrus juices and fruits, dark green leafy vegetables, legumes, and fortified breakfast cereals, while vitamin B-12 is found in meat and dairy products.

Vegans can consume non-haem iron from sources such as green leafy vegetables and fruits. These are also rich in vitamin C, which helps to maximise iron absorption. There are alternative sources of iron, such as beans (e.g. bean products such as soy beans, tempeh, lentils, tofu and chickpeas), whole-grains, nuts and seeds. Even then, iron intake may not be enough, especially for women whose average recommended daily allowance (RDA) for iron is 19mg. Vegans should talk to their doctors about iron supplements if they suspect they are lacking the nutrient. PRIME

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