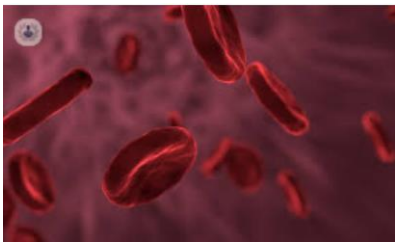
Coagulopathy and Blood dyscrasia in surgery

Coagulopathy

- (also called a bleeding disorder) is a condition where the blood's ability to coagulate (form clots) is affected.
- They can be congenital (such as hemophilia, Von Willebrand disease or hereditary platelet diseases) or acquired (caused by a defective synthesis of plasma coagulation factors or by the absorption of antibodies that attack blood clotting functions.
- In the latter case, most common causes may be poor diet that does not provide the necessary substances, intestinal malabsorption or the consumption of drugs that hinder the absorption of vitamin K.

Prognostic of the disease

- Certain types of coagulopathy do **not allow blood to clot.** Some types of coagulopathies are characterized by **hypercoagulation** (excessive blood clotting) which can result in thrombosis or embolism. Both are disorders that can cause premature death if they're not treated adequately.



The most common symptoms of a coagulopathy are the following:

- Bruising that occurs for no apparent reason
- Hermathrosis (bleeding into a joint cavity)
- Haemorrhage after childbirth
- Accumulation of blood in the pleural cavity (hemothorax)
- Very heavy menstrual flow
- Loss of blood through the nose

livedo reticularis

- Anal bleeding
- Blood in the urine
- Blood in the sperm
- Livedo reticularis
- Thrombocytopenia
- Persistent involuntary and painful erection of the penis (priapism)
- Gingival bleeding
- Rheumatisms
- Bloody gums
- Joint pain and swelling

diagnostic of a Coagulopathy

- The diagnostic is based on an objective **analysis of the habits of a patient,** for example. the type of medication they're taking, if they suffer from allergies, if they've had a blood transfusion and if they smoke or drink. It is also based on the medical history of the patient, blood analysis and tests to evaluate blood clotting.

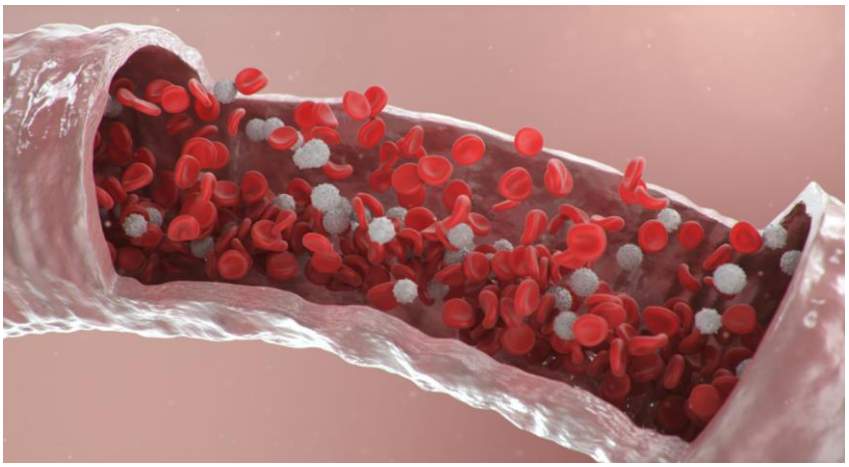
Can it be prevented?

- Especially in the case of blood clotting that is extremely quick (that can favour the appearance of thrombosis), it can be a good idea for individuals who are at high risk of developing a coagulation disorder to carry out preventative lifestyle changes.
- Exercise, losing weight and not sitting down for too long can reduce the symptoms of coagulation disorders.

Treatment for a coagulopathy

- Medications that prevent the the excessivformation of blood clots
- Contraceptive pills to counteract e bleeding during menstruation
- Medication that substitutes protein in the blood to ensure you do not excessively bleed

Blood dyscrasia



Red blood cell and hemoglobin diseases

- In some cases, the red blood cells tend to be abnormal in various varying ways. Apart from cells deficiency or excessiveness, they can be structurally abnormal or associated with abnormal hemoglobins. The presence of anemia (a limited amount of red blood cells) can result from different factors. It includes reduced blood cell production, loss due to severe bleeding, high destruction, or redistribution.

- Examples of red blood cells conditions include;
- Hemoglobinopathies: These are hemoglobin-related diseases, including genetic conditions such as sickle cell disease. It also includes acquired conditions such as sideroblastic anemia.
- Nutritional disorders: It consists of iron deficiency anemia caused by folate or vitamin B12 deficiency.

- Aplastic anemia: Although rare, the red blood cells can be produced in a limited amount due to bone marrow damage.
- Red cell membrane diseases
- Red blood cell enzyme deficiencies
- **Polycythemia:** This involves an increase in the production of red blood cells as a response to lung disease and other health issues.
- Hemolytic anemias: Occurs due to breaking down of the red blood cells

Anemia

- Anemia is described as a drop in the mass of red blood cells (RBCs). RBCs transport oxygen from the lungs to the tissues and carbon dioxide from the tissues back to the lungs. A reduction in the number of RBCs that carry oxygen and carbon dioxide affects the body's capacity to exchange gases in anemia. The reduction might be due to blood loss, increased RBC breakdown (hemolysis), or decreased RBC generation.

Iron Deficiency Anemia

- When the body's iron reserves fall too low to sustain normal red blood cell (RBC) synthesis, iron deficiency anemia occurs. The reason might be a lack of dietary iron, poor iron absorption, bleeding, or a loss of bodily iron in the urine. Iron balance in the body is typically carefully regulated to ensure that enough iron is absorbed to compensate for bodily losses of iron.
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Signs and symptoms

Patients with iron deficiency anemia may report the following:

1. Fatigue
2. Leg cramps on climbing stairs
3. Craving ice to suck or chew
4. Poor school performance
5. Cold intolerance
6. Altered behavior
7. Dysphagia with solid foods (from esophageal webbing)
8. Symptoms of comorbid cardiac or pulmonary disease

Bleeding disorders

Bleeding diseases are classified into four main categories, including;

1. Deficiencies of coagulation factors
2. Fibrinolytic abnormalities
3. Platelet disorders
4. Vascular abnormalities

Coagulation factor defects, including hemophilia, are caused by a genetic condition of clotting factors. These factors are required for the blood to clot naturally or as usual. This problem can be common or uncommon, and it can also be mild or fatal.

Risk Factors of Blood Dyscrasia

- A poor diet
- Aging
- Autoimmune conditions
- Diseases of the kidney, liver, or thyroid
- Heart disease
- High blood pressure
- High cholesterol
- Immobility
- Obesity
- Pregnancy
- Prolonged exposure to certain chemicals and drugs
- Smoking
- Surgery
- Trauma

Diagnosis of Blood Dyscrasias

- **Assessment of the patient's history** : Blood dyscrasias diagnosis usually starts by thoroughly assessing the history of the patient.
- **Physical examination**
- **Blood cells evaluation**
- **Bone marrow evaluation** :The physicians can opt for bone marrow biopsy or aspiration to obtain sufficient data regarding bone marrow health.
- **Coagulation study :**In case the physician suspects a bleeding condition, he or she will tell if you have a platelet condition or some form of bleeding disorder.