



The Full Blood Count

Elements

Haemoglobin

White Cell Count

Platelets

Haemoglobin

Low (anaemia)

High (polycythaemia)

Anaemia

Low MCV (microcytic)

Normal MCV (normocytic)

High MCV (macrocytic)

Microcytic Anaemia

Iron Deficiency

Anaemia of Chronic Disease Haemoglobinopathies

Sideroblastic Anaemia

Microcytic Anaemia -

Discriminate with history, examination, serum iron, ferritin etc.

cause Fe deficiency, chronic disease.

Macrocytic Anaemia

Megaloblastic bone marrow

Normoblastic Bone Marrow

Megaloblastic

Vitamin B12

Folate deficiency

B12 Deficiency

Low Intake (vegans)

Impaired Absorption (stomach or small bowel)

Abnormal metabolism

Folate Deficiency

Nutritional

Excess utilization (pathological + physiological)

Malabsorption

Antifolate Drugs

Normoblastic Macrocytosis

Liver disease

Alcohol

Hypothyroidism

Reticulocytosis (haemolysis, haemorrhage)

Macrocytosis Notes

Discriminate initially on history, examination, simple tests etc.

Remember, macrocytosis may occur without anaemia, especially as a result of alcohol.

Normocytic Anaemia

Acute loss

Anaemia of Chronic Disease

Infection

White Cell Count

Neutrophils

Lymphocytes

Eosinophils

Monocytes

Basophils

Neutrophils

High (neutrophilia)

Low (neutropaenia)

Neutrophilia

Bacterial infection

Inflammation

Trauma

Stress

Haematological Malignancy

Neutropaenia

Viral Infection

Racial

Severe Bacterial Infection

Pancytopaenia of any cause

Autoimmune

Lymphocytes

High (lymphocytosis)

Low (lymphopaenia)

Lymphocytosis

Viral Infection

Chronic Bacterial Infection

CLL

Lymphoma (sometimes)

Lymphopaenia

Viral Infection

Pancytopaenia

Eosinophils

High (eosinophilia)

Eosinophilia

Helminth Infection

Protozoal Infection

Allergy (anywhere)

Sarcoidosis

Churg-Strauss Syndrome

Monocytes

High (monocytosis)

Monocytosis

Chronic Bacterial Infection

Chronic Myelomonocytic Leukaemia

Chronic Neutropaenia

Platelets

Low (thrombocytopenia)

High (thrombocytosis)

Thrombocytopaenia

Impaired Production
Excessive Destruction

Impaired Production

Generalised Bone Marrow Failure

Megakaryocyte Reduction - drug induced (co-trimoxazole), chemical, viral infection

Excessive Destruction

Autoimmune Idiopathic Thrombocytopaenic
Purpura - acute & chronic

*Secondary Immune Thrombocytopaenia -drugs
systemic lupus erythematosus, viral*

*Coagulopathies - disseminated intravascular
coagulopathy, haemolytic uraemic syndrome*

Hypersplenism

Thrombocytosis

Essential Thrombocythaemia

Haemorrhage

Post-splenectomy

Infection

Malignancy

Myeloproliferative disorders