

BLOOD

Functions

- 1.
- 2.
- 3.
- 4.
- 5.

Fluid

Solids

- 1.
- 2.
- 3.

Proteins

Albumin –

Globulin –

Fibrinogen –

Characteristics

PLASMA

Dissolved materials

Proteins

Consistency

Approximate numbers of formed elements

RBC

WBC

Platelets

FORMED ELEMENTS

RBC

WBC

Platelets

Erythrocytes

Structure

Hemoglobin

Where formed

Average numbers

RBC

Hemoglobin

Normal blood

Men –

Women –

LEUKOCYTES

Numbers

Function

Diapedesis

Amoeboid movement

Positive chemotaxis

Leukocytosis

Leukemia

Leukopenia

Granulocytes

Neutrophil –

Eosinophil –

Basophil –

Agranulocytes

Lymphocytes

T –

B –

Monocytes

PLATELETS (THROMBOCYTES)

Megakaryocytes –

HEMATOPOIESIS

Location

Stem cells (hemocytoblasts)

1.

2.

3.

4.

5.

Erythropoiesis

Life span

Hormone

Leukopoiesis

Hormone

Platelets (thrombocytes)

Hormone

HEMOSTASIS

Stages

1.

2.

3.

BLOOD TYPES

Type

Antigen

Antibody

A

B

AB

O

Rh factor

+

-

Transfusions

Hemolytic disease of the newborn
(erythroblastosis fetalis)

Leukopenia - Absolute decrease in WBC numbers, neutrophils are most affected

Neutropenia - Refers to a decrease in neutrophils, less than 1500 cells/ul

Mononucleosis – Caused by Epstein Barr Virus, symptoms include pharyngitis, enlarged lymph nodes, and spleen, increased WBC count, lethargy

Lymphoma – Solid tumors derived from neoplastic lymphoid tissue cells

Hodgkin's lymphoma – Cancerous form of lymphoma containing Reed Sternberg cells

Non-Hodgkin's lymphoma – Lymphoma with the potential for malignant transformation

Leukemia – Malignant neoplasms of cells originally derived from hematopoietic stem cells. Diffuse replacement of bone marrow with unregulated proliferating immature neoplastic cells

Thrombocytopenia – Number of circulating platelets is less than 100,000/ul, spontaneous bleeding can occur if < 20,000/ul

Hemophilia – X-linked recessive disorder that primarily affects males. Chronic bleeding, inflammation, inability to stop bleeding

Aplastic anemia – All myeloid stem cells are affected resulting in anemia, thrombocytopenia and agranulocytosis

Anemia – decreased production of RBC in bone marrow, deficiency of nutrients for hemoglobin synthesis, in general, any deficiency of RBC's

Polycythemia – Abnormally high total RBC mass with a hematocrit >50%.