White blood cells

neutrophil eosinophil basophil monocyte lymphocyte

Control of WBC synthesis:

by colony stimulating factor CSF that released by WBC themselves.

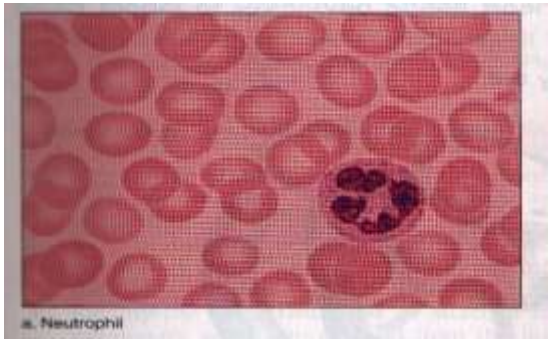
Granulocytes :

1.neutrophiles:

***nucleus: is lobulated about 1-5 lobes the number of lobes increase as the cell became older.**

***activity: it has amoeboid activity called phagocytosis.**

***age: the average life span is about 7 hours.**



*origin:

are synthesis in bone marrow take about 6-10 days,

a large number of them stored in bone marrow and

small number inter the circulation adhere to blood capillary wall all this called neutrophilic reserves.

Releasing:

Its believed that bacteria produce agents that attract neutrphiles to infected area these agent called *chemotaxis.*

*migration: of neutrophiles from blood vessels to site of infection is by diapedesis.

*function:in engulfing bacteria by phagocytosis it concerned as the first line of defenses in the body .

2. basophiles: they found in normal blood about 0-1 %, its size is the same as neutrophiles but it nucleus similar to the letter S and form two lobes.

secrete
histamine and heparin:
the histamine cause vasodilatation of blood vessels .
The heparin to prevent clotting of blood.

***number is increase in allergic and inflammation also in chronic disease and this called basophilia.**

3.acidophiles:or eosionophiles:

there number about 2-5% of total WBC count. It synthesis in bone marrow .

Bone marrow 300cell , circulation 1 cell, tissue 200cell.

***the nucleus**

has two lobes normally and cytoplasm contain large granules. increase in parasitic disease, the increasing in number called acidophillia.

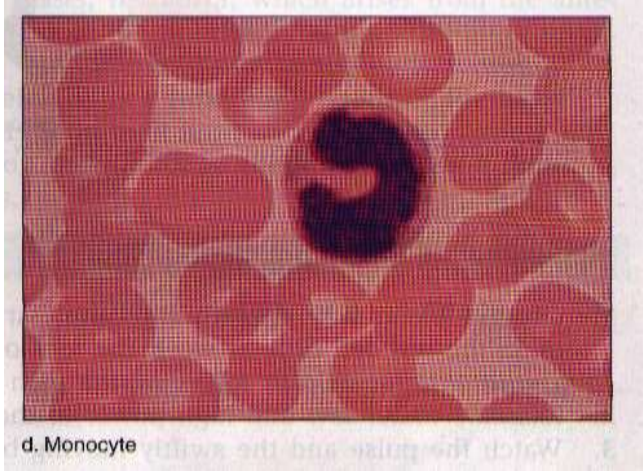
A granulocytes:

1.monocyte:

about 2-5%, second line of defense in the body, increase In chronic disease.

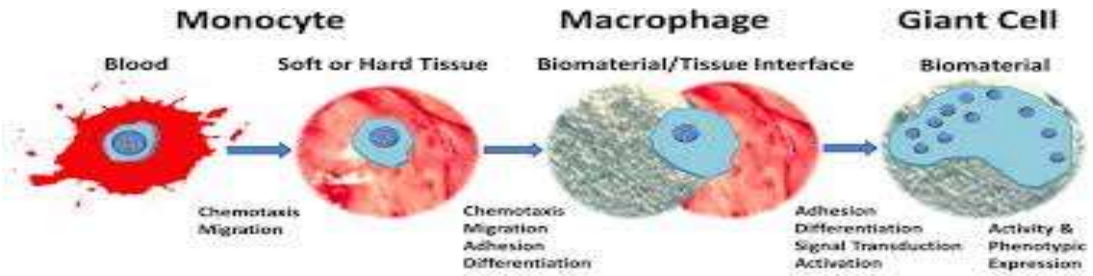
***originated from bone marrow and inter circulation after 24 hr they leave the blood to tissue in order to settle there and became tissue macrophage.**

***they called kuffer cell in liver and alveolar cell in lung.**



* they are largest leukocyte or WBC in the body.

*3or more macrophage fused together to form (Giant cell) to engulf bacteria.



2. lymphocytes:

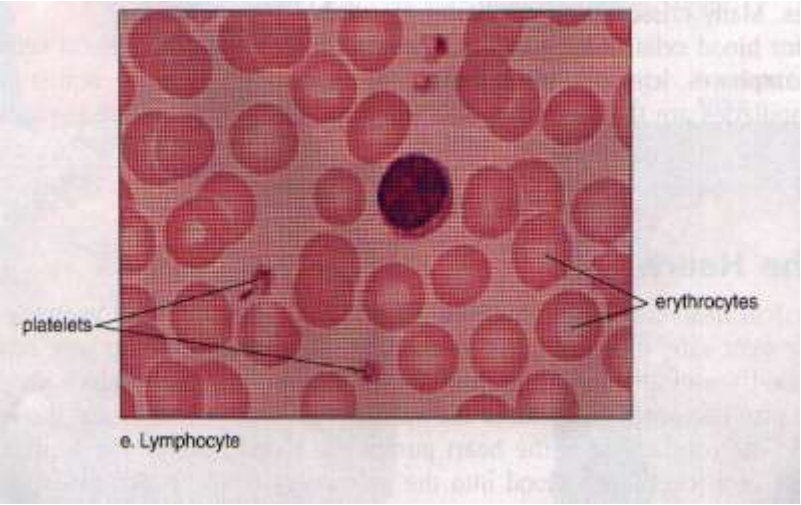
***number 40-45%**

two types:

B-lymphocyte and T-lymphocyte.

B-lymphocyte orginate from bone marrow but maturation in lymph node, liver, spleen in mammals and bursa of fabrecious in chicken.

T-lymphocyte originate from bone marrow but maturation in thymus gland.



*** the function is formation of antibodies**
Humoral immunity
Cellular immunity
***lymphocyte increase in viral disease , the increasing in number called lymphocytosis.**