

GRANULOCYTES

Single multi-lobed nucleus , phagocytic , Spherical(blood) , irregular(Connctive tissue) , motile(amoeboid movement), migrating (**diapedesis**)



- Neutrophilia : a higher neutrophil count in the blood than the normal reference range of absolute neutrophil count
- Neutropenia : refers to lower-than-normal levels of neutrophils in your blood

Neutrophils

- most common
- polymorphs
- In Acute pyrogenic infections.....
- life span of 1- 4 days in connective tissues before dying by apoptosis.
- **Barr body** 3% : inactive X chromosome , in females , drumstick-like appendage on the nucleus
- first WBCs that leave [abundant , motile , chemotactic factors
- pus formation
- kill bacteria in poorly oxygenated region (anaerobic environment) ,
- Small granules : Azurophilic granules(Myeloperoxidase, Acid hydrolase- Defensins) / Specific granules {Phagocytin(bactericidal), Lactoferrin (bacteriostatic)

Basophils



- Rarest
- bi-lobed, S-shaped nuclei
- Large Granules{histamine, heparin and eosinophilic chemotactic factor}
- First and second Exposures lead to Immediate or type 1 hypersensitivity
- rapidly degranulate, vasodilation, drop in blood pressure , Anaphylaxis or anaphylactic shock.
- in allergic dermatitis and skin allograft rejection, eczema

Eosinophils

- bi-lobed nuclei
- by a short "thread"
- Large granules , Specific granules (Crystalloid granules), Oval
- -Two parts:
Externum (pale); contains histaminase and sulfatase
Internum (dark); contains basic protein to kill parasi
- ending allergic reactions
- phagocytic affinity for antigen- antibody complex

	Neutrophil	Eosinophil	Basophil
Percentage (WBCs)	Most		Least
Size	12-15um	12-15um	12-15um
Life span	Few days	Few days	Few days
Nucleus	2-5 lobes	2 lobes	Irregular (S-shaped)
Phagocytic activity	Most		Least
Motility	Most		Least

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