RETICULOENDOTHELIAL SYSTEM(RES)

RES is a system of cells which have highly phagocytic properties

RES consist of

- Monocyte
- Mobile(wandering) tissue macrophage
- Fixed tissue macrophages

MONOCYTES:

- These are largest leucocytes
- Immature cells present in blood with little ability to fight infectious agent
- After 72 hours they enter the tissues to become "tissue macrophage"
- In the tissue they swell to become large size and cytoplasm is filled with lysosomes

FUNCTIONS OF MONOCYTES:

- Enter tissue and form tissue macrophages act as scavengers
- Phagocyte several bacteria(upto 100)
- Engulf large particulate matter,dead tissue cells and senile cells
- Along with macrophage involved in phagocytosis and destruction of necrotic material
- Co-operate with both B and T-lymphocyte in both humoral and cellular immunity

WANDERING TISSUE MACROPHAGES:

- Monocytes leaving the blood become activated and differentiate into macrophages
- Those that have recently left the blood are sometimes referred to as wandering macrophages
- Monocytes changes during maturation

a)increase in cell size

b)number and complexity of intracellular organelles increase (i.e) golgi, mitochondria and lysosomes

Fixed tissue macrophage:(also known by different names in different sites)

- Liver-kuppffer cells
- Lungs-alveolar macrophages
- Skin-langerhans cells
- Connective tissue-histocytes
- CNS-microglia
- Bones-osteoclasts
- Spine/bone-reticular cells

Functions of RES:

- Phagocytic function-bacteria,other foreign bodies and tissue debris are engulfed and digested by the lysosomes of the macrophages
- Destruction of senile red cells
- Storage and metabolism of iron
- Formation of bile pigments