Immune system

Innate/Natural Immunity (non-specific responses)

1st line

1. Skin
2. Mucous membranes & secretions
3. Normal flora

2nd line

1. Innate immune cells
2. Inflammation
3. Complement
4. Antimicrobial substances

Adaptive/Acquired Immunity (specific responses)

3rd line

<u>Specialized Lymphocytes</u>

1. B cells (produce antibodies)
2. T cells
   - A. Helper T cells
   - B. Killer T cells

Immunity

Active immunity
Production of a person's own antibodies. Long lasting

Passive immunity
An individual is given antibodies by another
Short-term resistance (weeks- 6months)

Natural Active
When pathogen enters body in the normal way, we make antibodies

Artificial Active
Vaccination – usually contains a safe antigen from the pathogen. Person makes antibodies without becoming ill

Natural Passive
Baby in utero (placenta)
Breast-fed babies

Artificial Passive
Gamma globulin injection
Extremely fast, but short lived (e.g. snake venom)

Edward Jenner

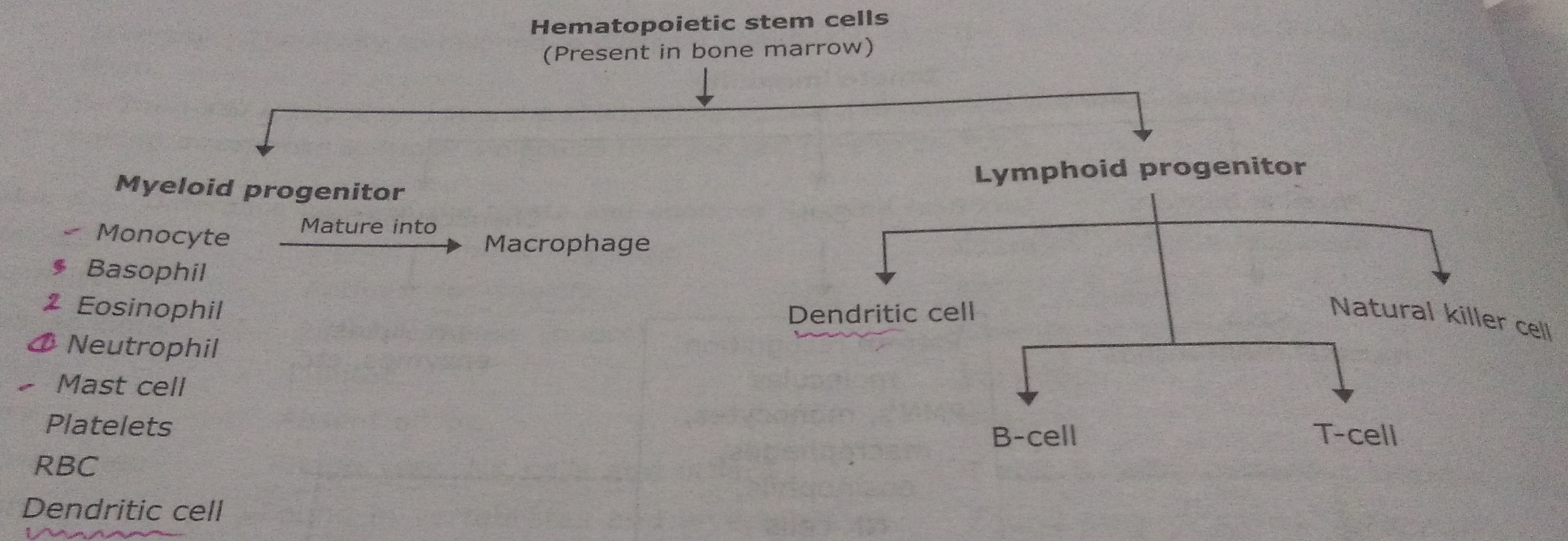
3.

When Ag findout
APC are ~~extern~~ in our body → 3 types of
(B cells, dendritic cell, macrophage) stimu-
lated → then MHC molecules on APC express Ag
to either Tc or TH cells.

If Ag are endogenous, expressed by MHC-1
to Tc & if Ag are exogenous, expressing by
MHC-II to TH cell.

⟹ TH-1 for cellular immu to intracellular Ag

⟹ TH2 for humoral immu. to extra cellular Ag.



5.3.1 Lymphoid progenitor

ymphocytes (responsible for adaptive immune response) are mononuclear leukocytes which consti
total white blood cells (or leukocytes). They occur in large numbers in the blood and lymph a
ans such as the thymus, lymph nodes, spleen and appendix. Up to 99% of lymphocytic cells are
phocytes are of three main types:

-lymphocytes or B-cells

ymphocytes or T-cells