

② phases of AI

fluid phase (F)

Neutrophil. phase (N)

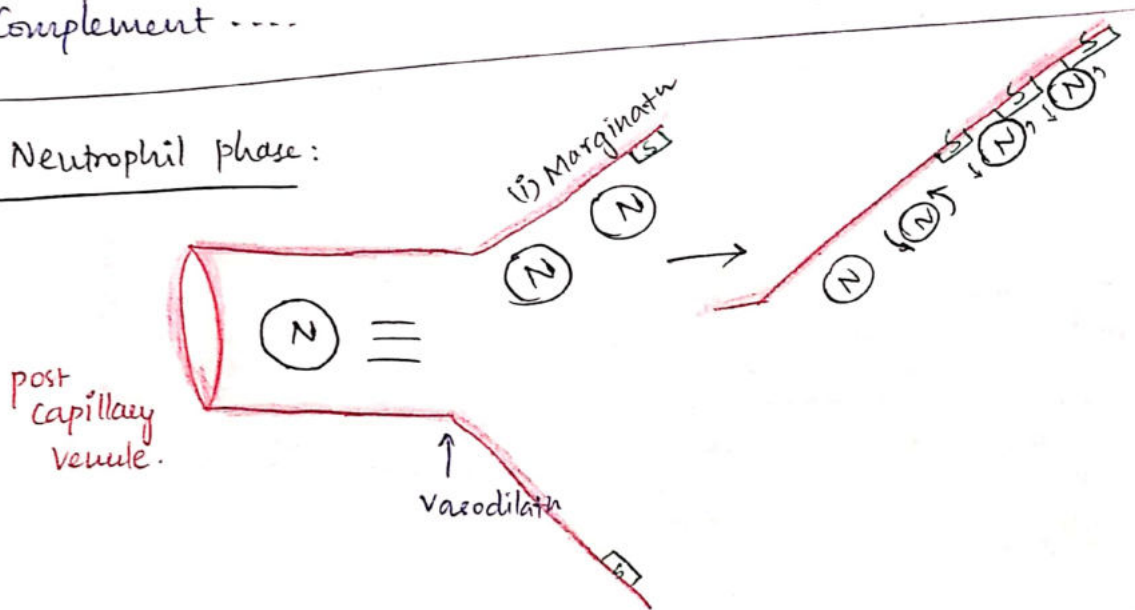
Macrophage phase (M)

- * immediately after infecⁿ/Necrosis
- * fluid, edema & Complement ----

- * 24hrs after...
- * Neutrophils reach the tissue

Takes 2-3d.

Neutrophil phase:



- * Laminar flow $\Rightarrow$ Centre of v/s $\Rightarrow$ Heavy particles (Neutrophils)

Vasodilation $\rightarrow$ Turbulent flow $\rightarrow$ Neutrophils reach margins

Step ① Margination.

Marginated N. are slowed down by **SELECTINS**.
Selected selectins are "mol. speedbrakes" present in endothelial cells. **Step ②**: This process of slowing down of N. is **ROLLING**

→ present in endothelium & bind to sialyl Lewis-X of Leukocytes

P-selectins.

E-selectins.

* released from **Weibel-Palade** bodies in endoth.

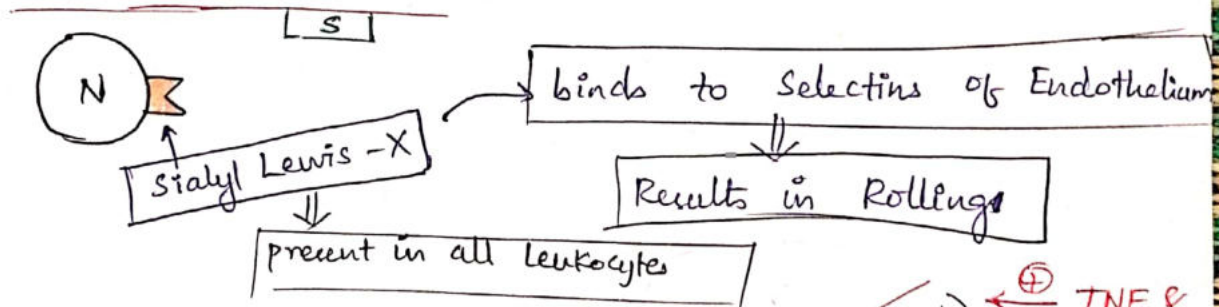
--- upregulated
* $\oplus$ by Histamine

* ② chemicals in Weibel Palade

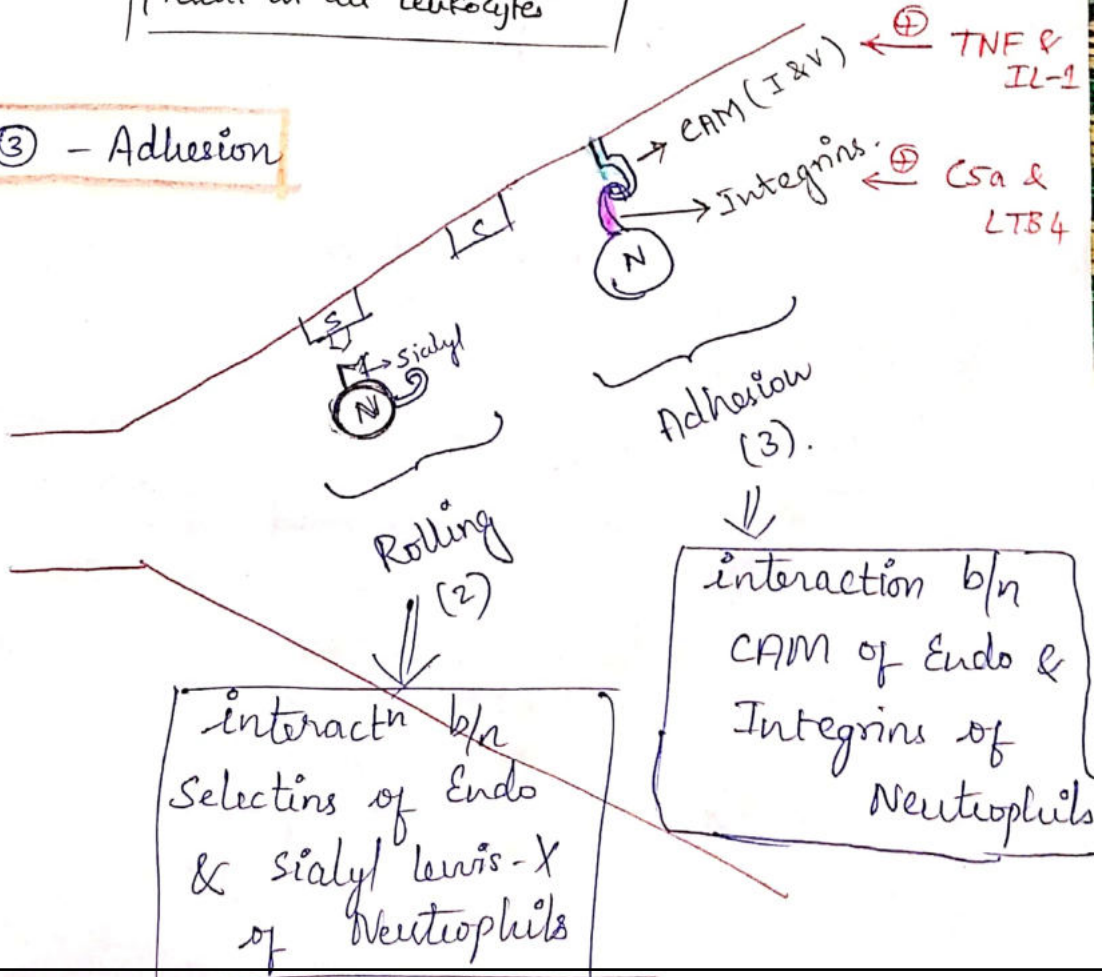
W - vWf

P - P-selectins.

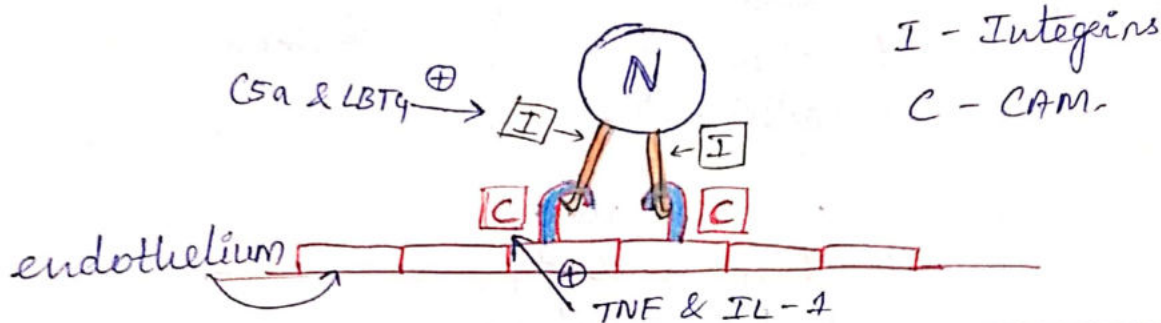
upregulated
 $\oplus$ TNF & IL-1



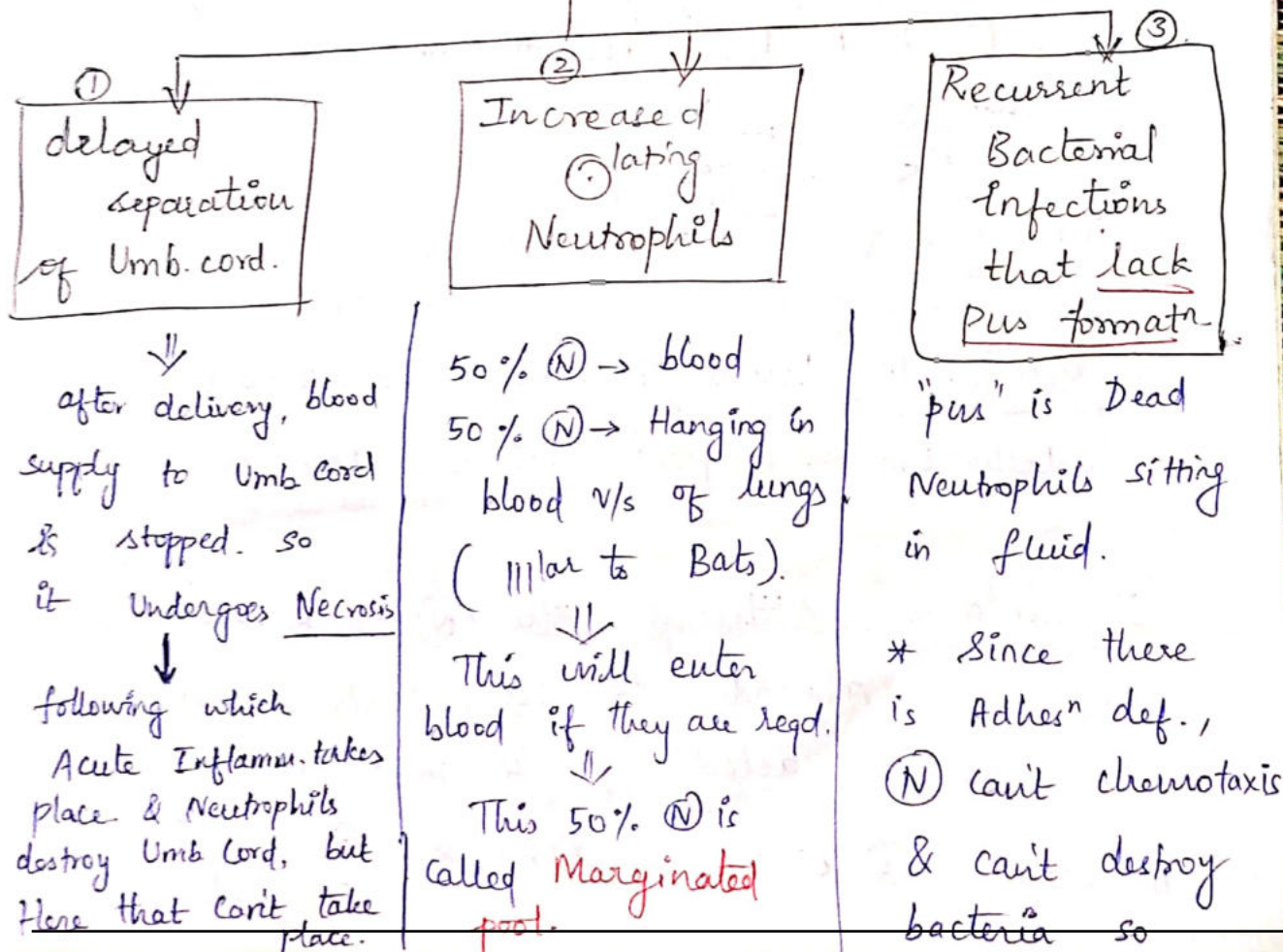
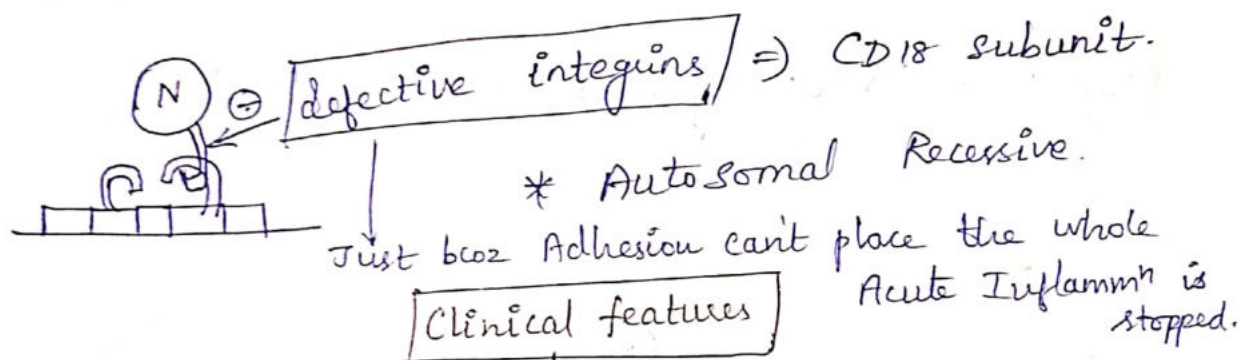
Step ③ - Adhesion



endothelial cells
& integrins expressed by Neutrophils



Clinical: LEUKOCYTE ADHESION DEFICIENCY:

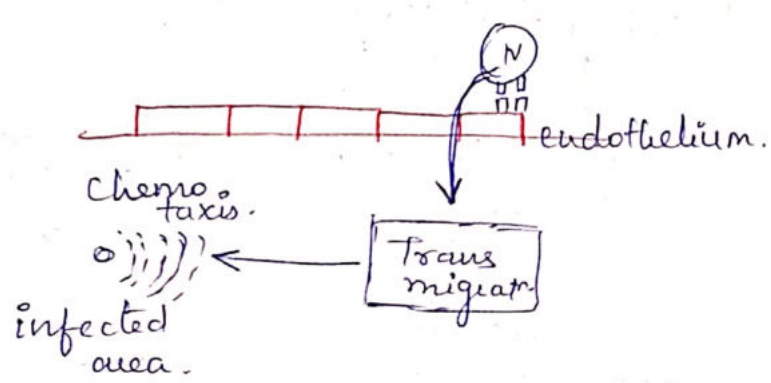


the adhesion
H.I. can't take place & separation of Umb. cord is affected

the adhesion
pool is adhered by Adhesion but Here in leucocyte Adh. def. they can't adhere ↓ so all (N) are found in blood (↑ Neutrophils in blood)

doesn't take place & infection recurrent but No pus is formed.

Step ④ : Transmigration & Chemotaxis



Transmigration: Leucocytes movement across endothelium of post capillary Venules.

Chemotaxis: Although the (N) can't see they can respond to chemicals. Here they are attracted by ④ products.

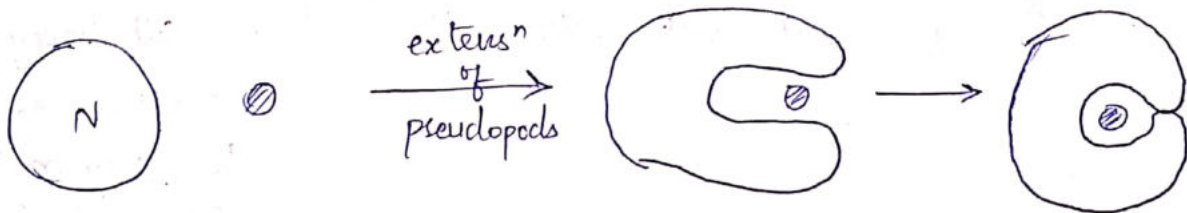
- ① C5a ② LTB₄ ③ IL-8 ④ Bacterial products

* Consumption of (i) pathogens (or)
(ii) Necrotic Tissue
is called phagocytosis.

* phagocytosis is enhanced by $\left\{ \begin{array}{l} \boxed{\text{IgG}} \\ \boxed{\text{C3b}} \end{array} \right\}$ opsonins

↓
makes the pathogen/necrotic more
Tissue tastier

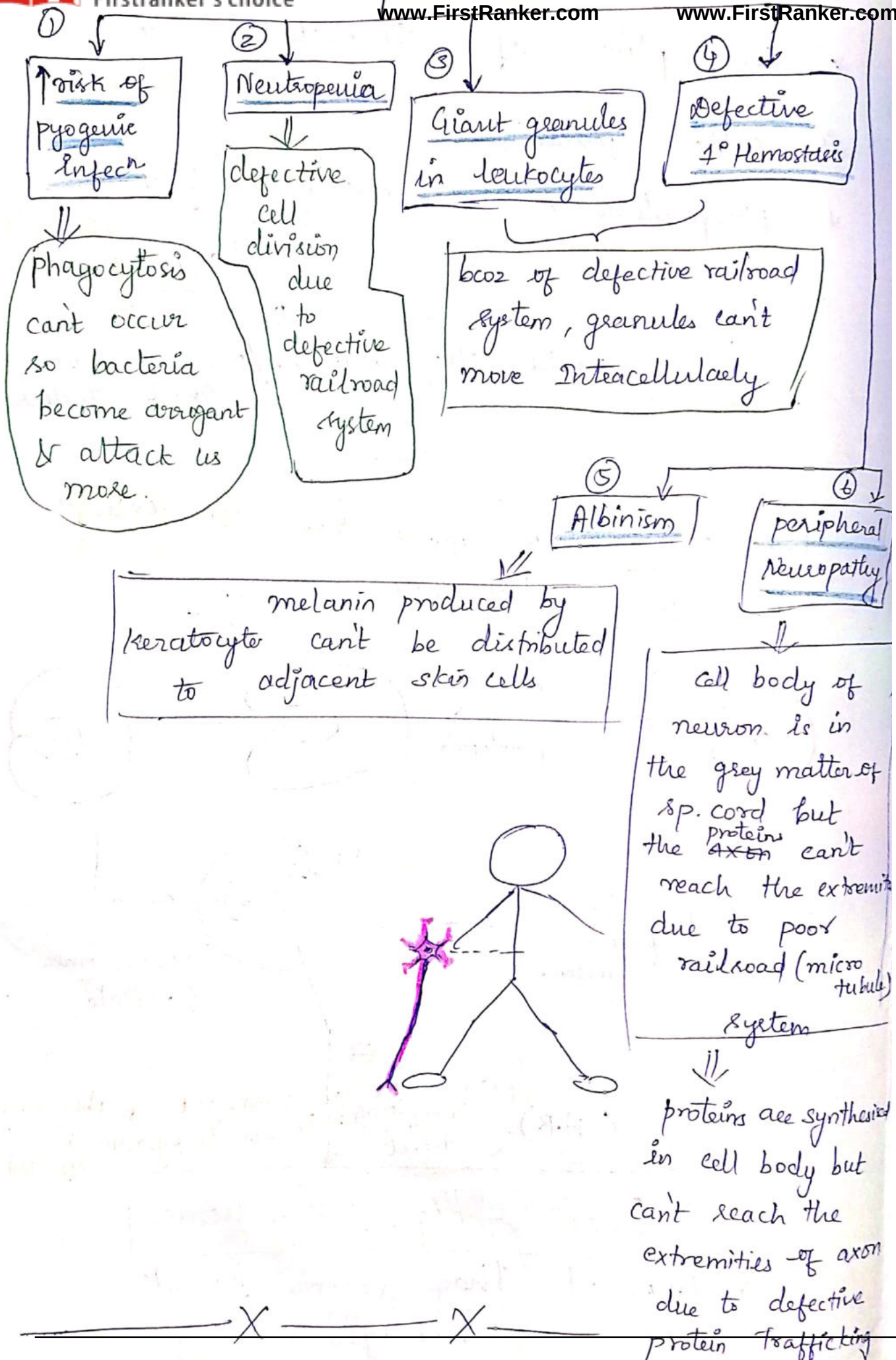
Mechanism: Pseudopods from (N) extend
to form phagosomes.



(A.R.) protein Trafficking defect → movement of phagosome towards lysosome is affected

Chediak-Higashi Syndrome

* impaired phagolysosome formatn.
(Next pg... Contd...)



Summary:

