

WBC DISORDER

Neutrophils $\rightarrow$ 40-70%	Monocytes - 2-10%	}	Normal
Lymph $\rightarrow$ 20-40%	Eosinophils - 1-6%		
Basophils - less than 1%			

Leukocytosis $\rightarrow$ $\uparrow$ WBC more than 11,000/cu mm
 Leukopenia $\rightarrow$ $\downarrow$ WBC less than 4000/cu mm

Types $\rightarrow$ Neutrophilic
 eosinophilic
 basophilic

causes $\rightarrow$ AML, ALL
 $\rightarrow$ CLL, CML
 $\rightarrow$ Aplastic Anemia
 $\rightarrow$ Megaloblastic Anemia

VIVA

LEUKEMOID REACTIONS:

- $\rightarrow$ Leukemic like
- $\Rightarrow$ Non-neoplastic leukocytic proliferation characterized by total leukocyte count that exceeds $50 \times 10^9/L$ with few immature WBC.
- $\rightarrow$ They may be myeloid or lymphoid type

TYPES

- Myeloid leukemoid Rⁿ $\downarrow$ cause
 $\rightarrow$ Severe Bac infections eg. staphy, streptococic, pneumonia
- Malignancy (ALL, Hodgkin lymphoma)
 Severe hemorrhage & hemolysis.
- Lymphoid leukemoid Rⁿ
 $\rightarrow$ Viral (mononucleosis cytomegalovirus)
 Bact: Tuberculosis, whopping cough

CAUSE

- $\rightarrow$ infection
- $\rightarrow$ Hemorrhage
- $\rightarrow$ dysregulation
- $\rightarrow$ Malignancy

Diff b/w Leukemia & Leukemoid Rⁿ:

Ques

Leukemoid Ra (Dohles Bodies) seen

Leukemia
Leukemoid

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- | | |
|--|--------------------------------------|
| → Total WBC count ↑, rarely exceeds $50 \times 10^9/L$ | more than $50 \times 10^9/L$ usually |
| → few immature WBC | more number of immature WBC |
| → LAP (Leukocyte Alkaline Phos) ↑ | ↓ LAP |
| → mild Anemia | Severe Anemia |
| → Philadelphia chromosome (Absent) | (Present) |
| → Hgblt fumes Absent | Present |

Ques

AGRANULOCYTOSIS:

- Reduction in the Absolute neutrophil count below $1.5 \times 10^9/L$
- Severe neutropenia of neutrophil count below $0.5 \times 10^9/L$
- The patients are highly susceptible to severe potentially fatal fungal infections

CAUSE:

- ↓ Prod. of granulocytes:
 - Marrow hypoplasia → Drug chemo, Aplastic Anem.
 - suppression of neutrophil prod. by Drug & chemical
 - Replacement of marrow by tumor

- ↑ Destruction of granulocytes:
 - Immune mediated injury → Autoimmune disease SLE,
 - Severe Bact infection - Typhoid
 - Viral infection - Influenza, Hepatitis A & HIV
 - Malaria, kala-azar
 - splenomegaly - splenic sequestration may be associated with

Non-Hodgkin's Lymphoma