

WBC Disorders.

Leukoerythroblastia

Defn: pr. of immature WBCs (myelocytes, metamyelocytes & promyelocytes); also nucleated RBCs in the peripheral blood.

Causes: Infections: military tuberculosis

Bone metastasis eg: carcinoma of lung, breast, prostate, GI tract.

Hematologic conditions: Myelofibrosis, severe hemolysis, (eg: HDN), multiple myeloma, lymphoma

Storage disorders.

- ↳ Gaucher's disease
- ↳ Niemann-Pick disease

ACUTE LEUKEMIA

Defn: malignant disease of bone marrow stem cells.

↓
Acute lymphoblastic leukemia

↓
Acute myeloblastic leukemia myeloid.

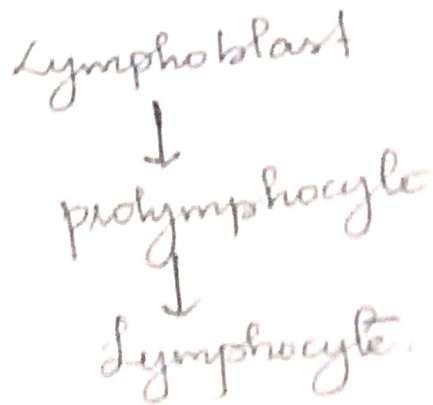
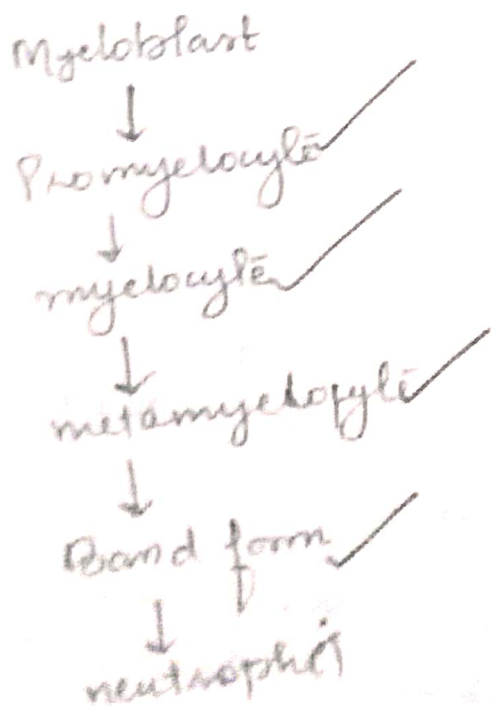
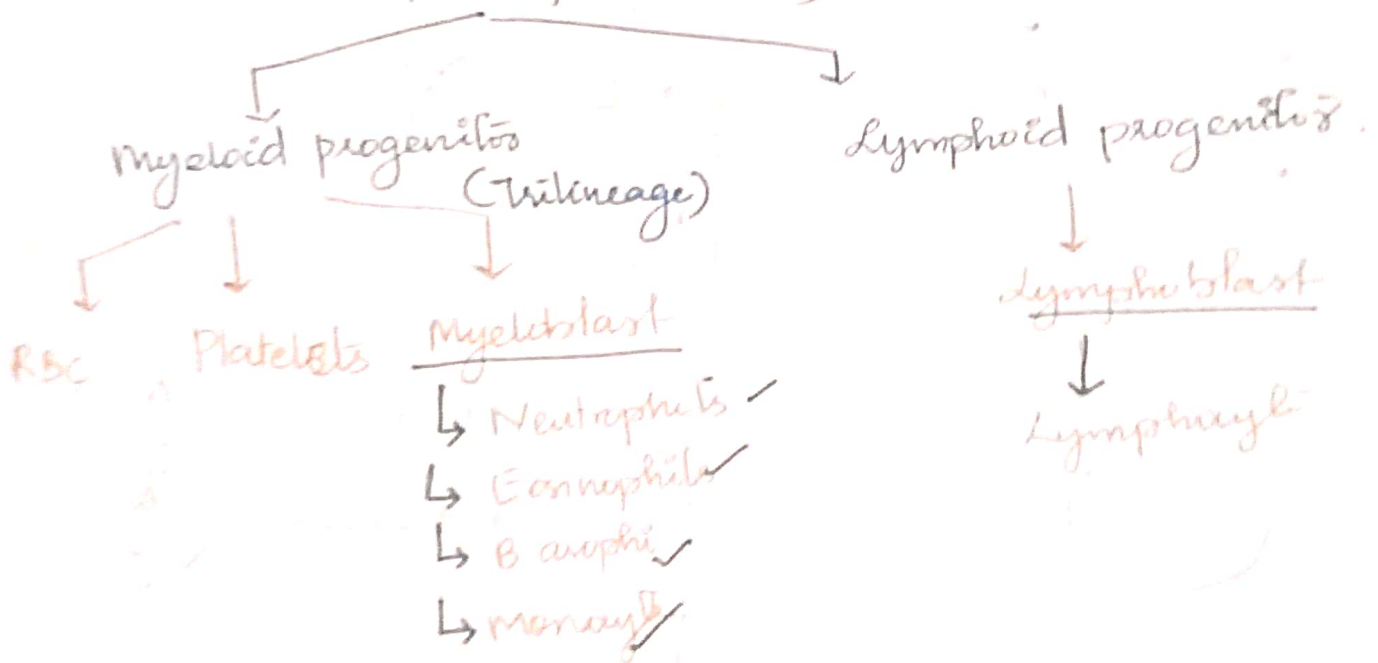
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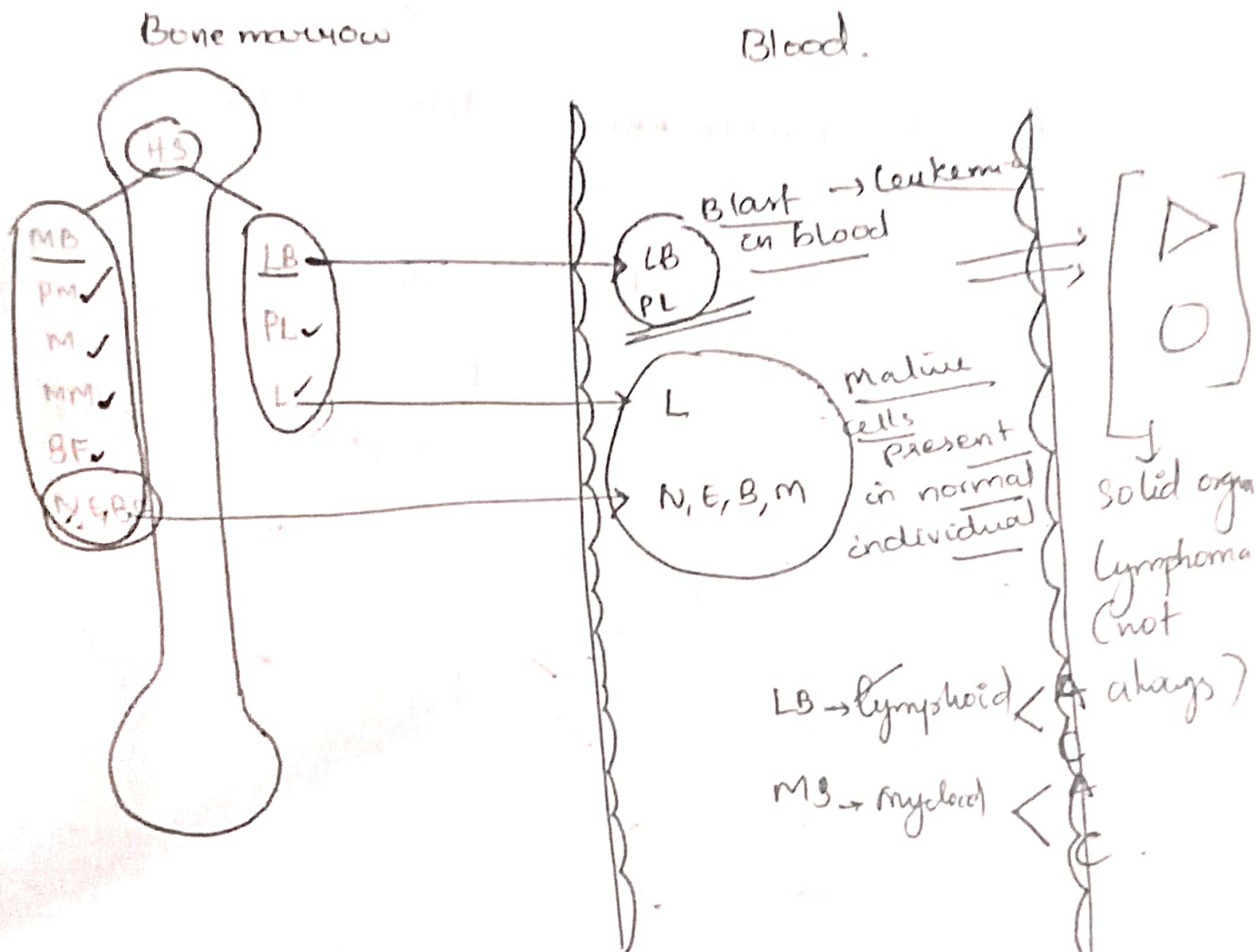
LEUKEMIA

Site of prodm of WBCs, RBCs, platelets - Bone marrow.

Formation

Hematopoietic stem cells.





Leukemia is arrival of immature forms especially the blast (myeloblast, lymphoblast).

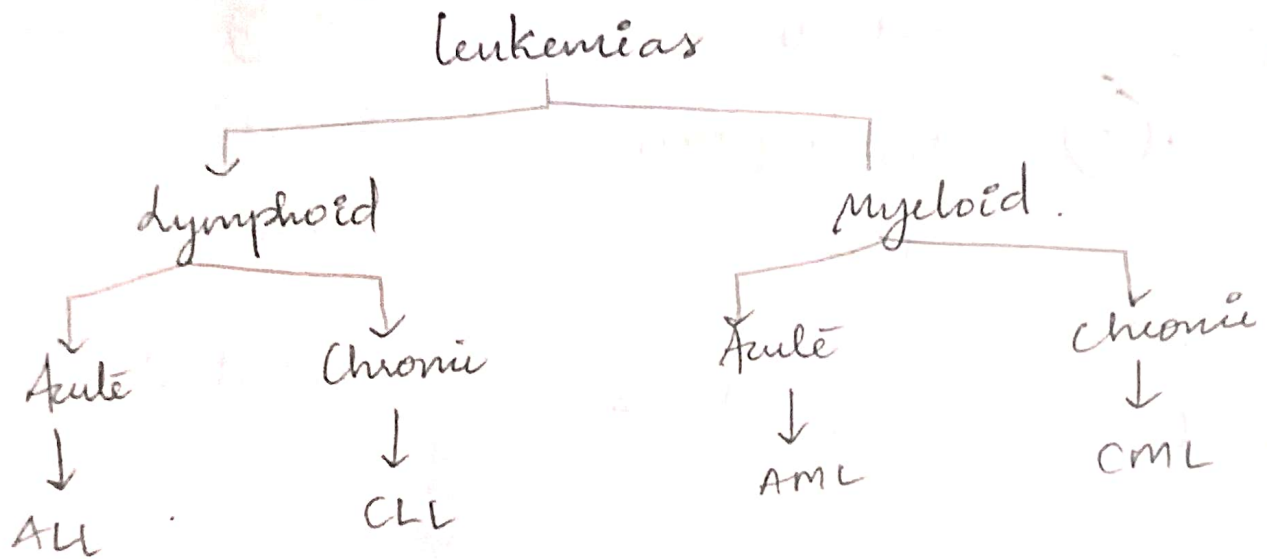
Acute (blast) Chronic (blast & later precursors)

Why they are coming in the blood = Due to mutation
 → Uncontrolled mitosis - Hallmarks of cancer

→ The uncontrolled dividing cells will be spilled over into the blood

ALL precursors of AML → myeloblast - AML
 ALL precursors of L-ALL → lymphoblast - ALL

- Leukemia is the disorder of the bone marrow.
- Sometimes especially in AML, ALL there will be organ infiltration.



- Lymphoma is the tumor of solid organs
- Leukemia is the cancer of the blood.

Acute Leukemia

- In healthy individuals → MB $< 5\%$; LB $< 5\%$
- Blast cells $> 20\%$ (WHO criteria), in the marrow
- Blast cells $> 30\%$ (FAB)

Chronic Leukemia

- Other precursors.

Morphology of Myeloblast and Lymphoblast.

	Myeloblast	Lymphoblast
Size	Larger	Smaller
Cytoplasm	Moderate	Scanty
<u>Auer rods</u> *	May be present	Absent
Nuclear Chromatin	Fine	Coarse
Nucleoli	Prominent 1-4	Indistinct

	CML	AML	ALL	CLL
Introduction	<ul style="list-style-type: none"> → Leukocytosis → Basophilia → Splenomegaly → Philadelphia Chrom 			
Age	Old age > 50 yrs	15 to 40 yrs.		
Pathogenesis				
Classification				
Clinical feature				
Lab diagnosis				
Treatment				
Prognosis				