Platelets counting

Physiology Lab-13

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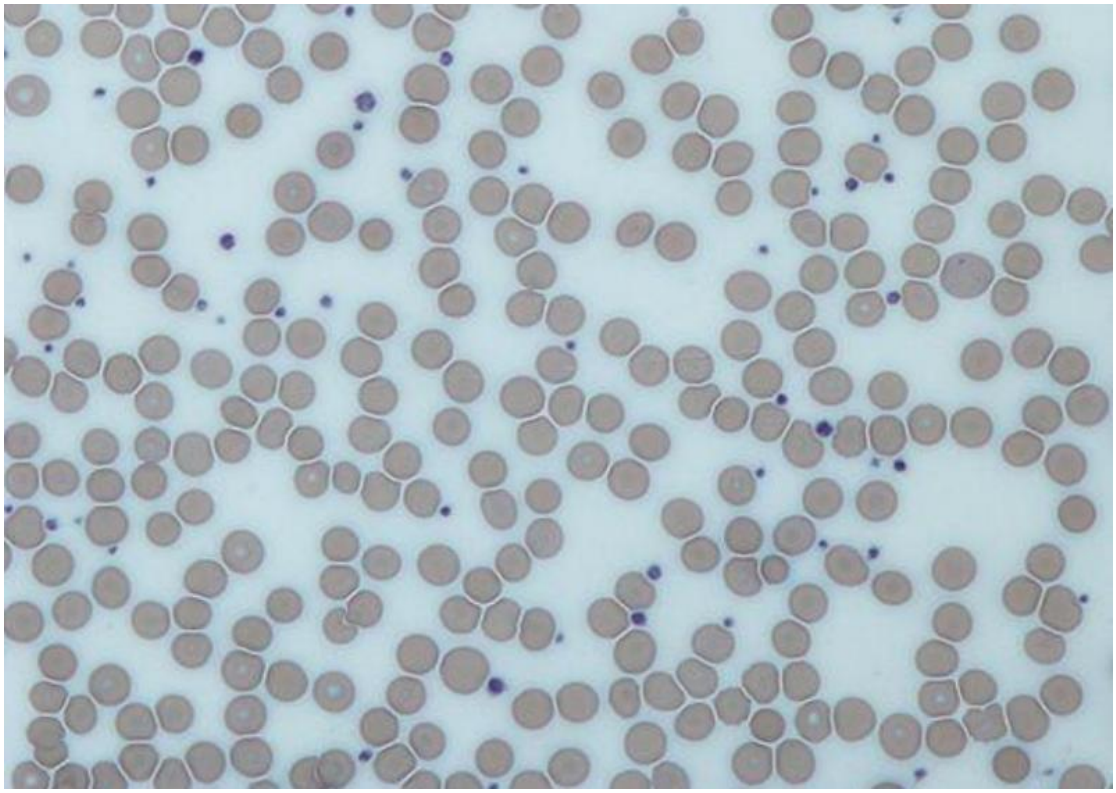
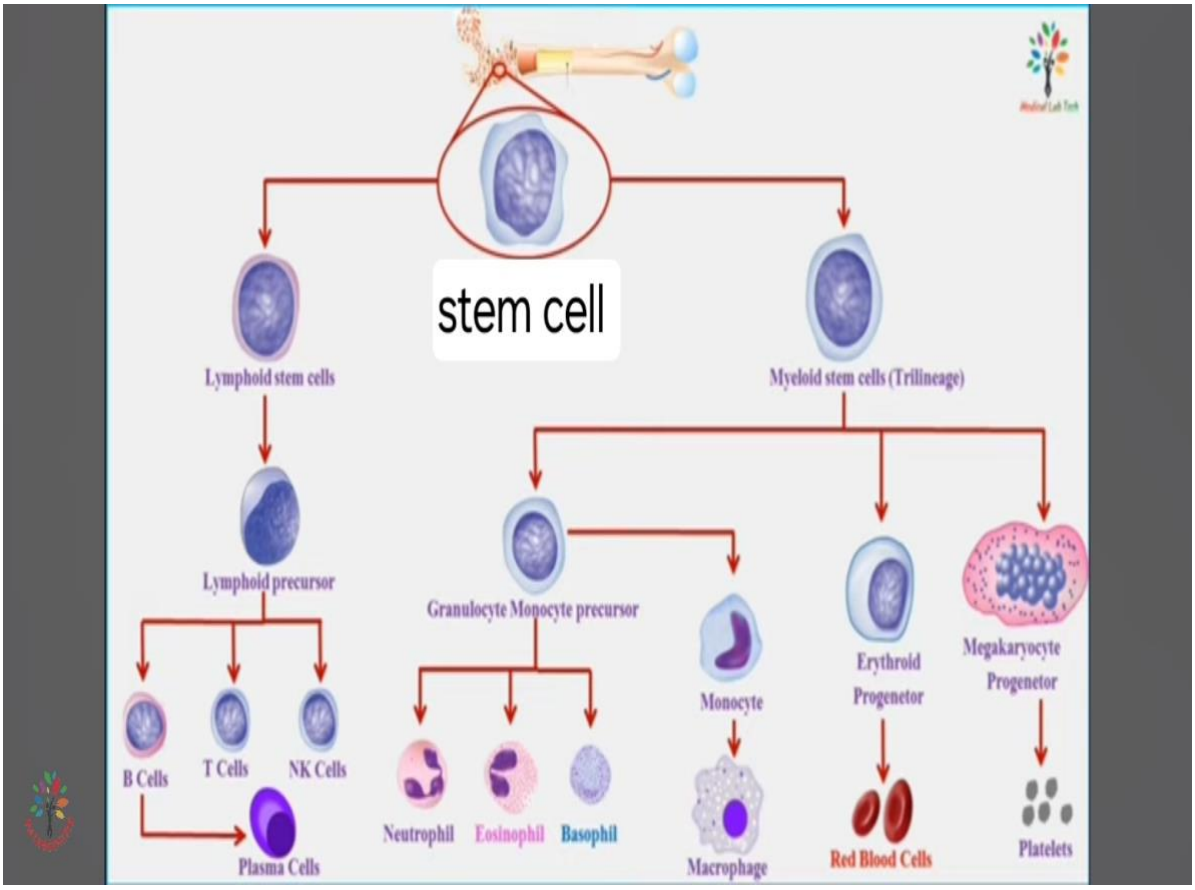
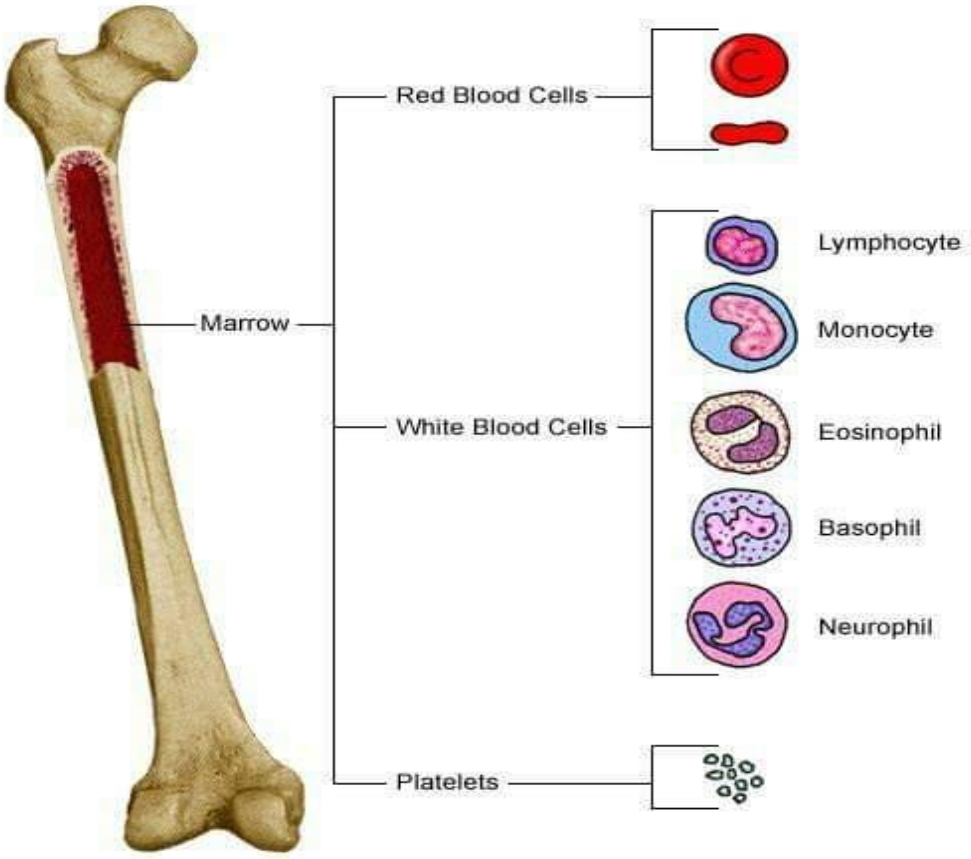
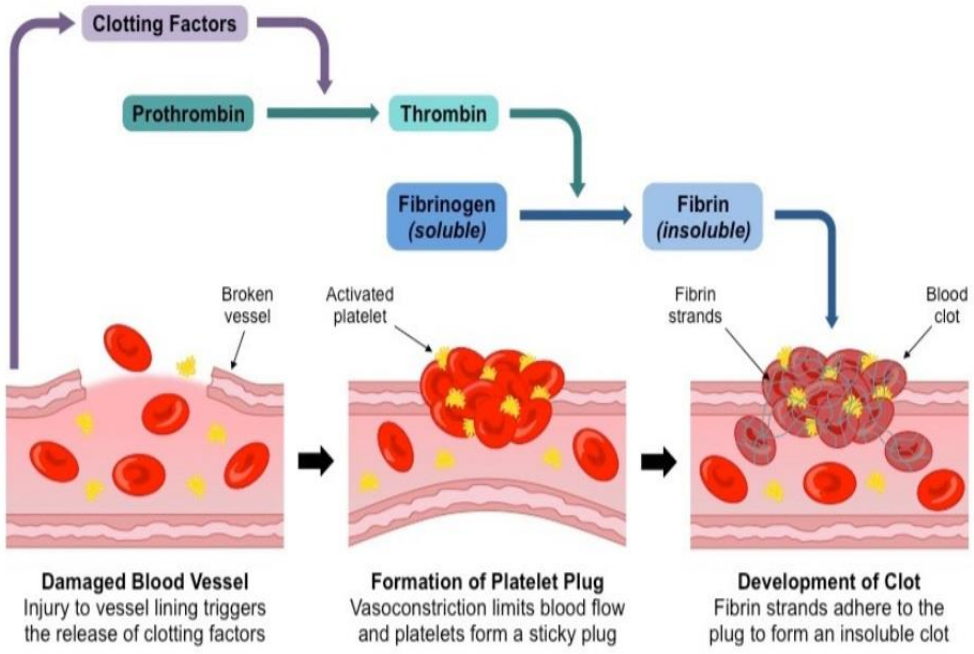
Platelets or thrombocytes are a componentof blood whose function (along with the coagulationfactors) is to react to bleeding from blood vessel injury byclumping, thereby initiating a blood clot. Platelets haveno cell nucleus; they are fragments of cytoplasm derived afrom the megakaryocytes of the bone marrow orlung, which then enter the circulation. Plateletsfound only in mammals, whereas in other vertebrates (e.g. birds, amphibians), thrombocytes.circulate as intact mononuclear cells. the platelet shape canbe considered similar to oblate spheroids



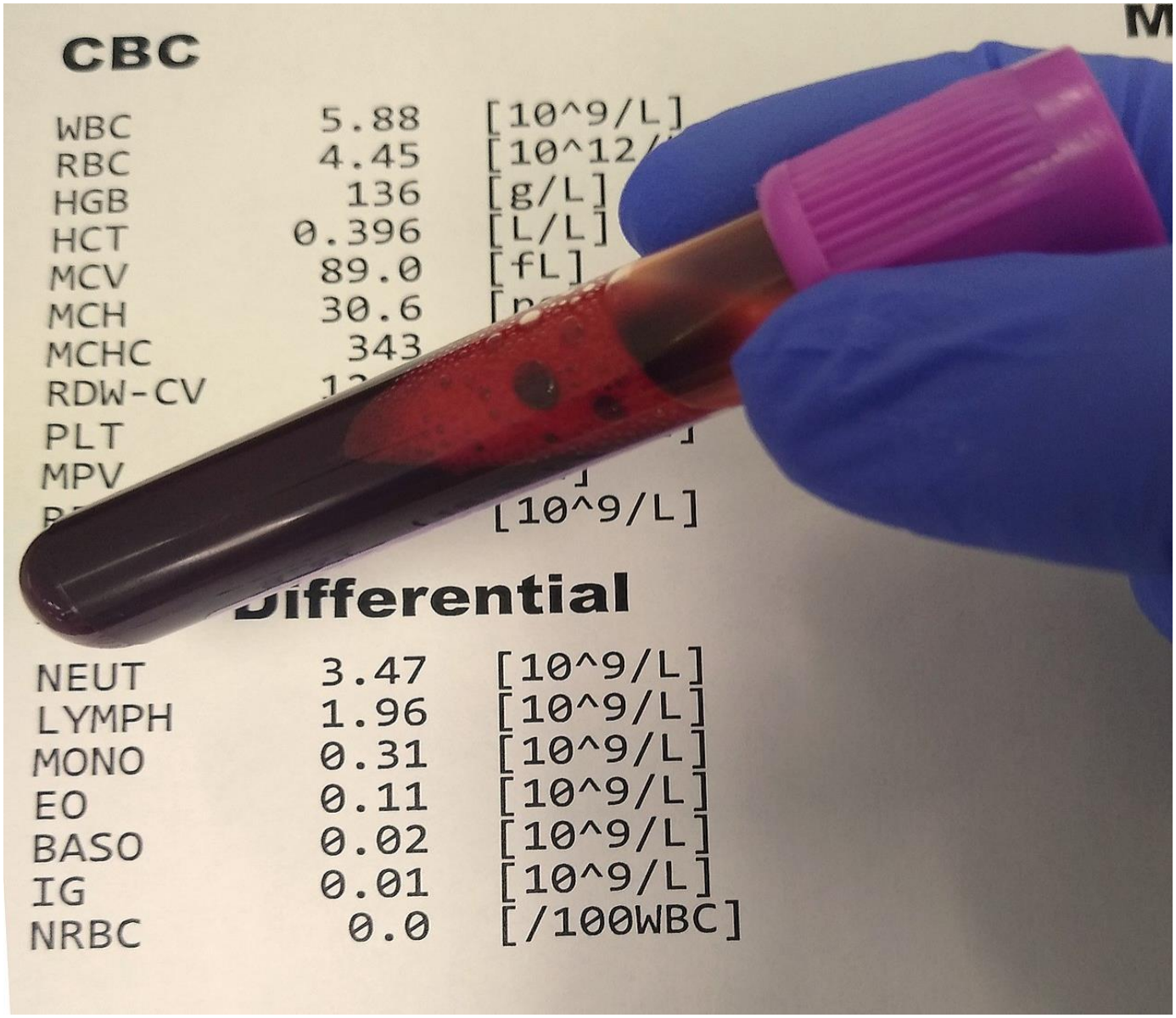

stem cell
Lymphoid stem cells
Myeloid stem cells (Trilineage)
Lymphoid precursor
Granulocyte Monocyte precursor
B Cells
T Cells
NK Cells
Plasma Cells
Neutrophil
Eosinophil
Basophil
Monocyte
Macrophage
Erythroid Progenetor
Red Blood Cells
Megakaryocyte Progenetor
Platelets


Marrow
Red Blood Cells
White Blood Cells
Platelets
Lymphocyte
Monocyte
Eosinophil
Basophil
Neurophil

Process of Blood Clotting or Coagulation



Process of Blood Clotting or Coagulation


CBC
WBC 5.88 [10^9/L]
RBC 4.45
HGB 136 [g/L]
HCT 0.396 [L/L]
MCV 89.0 [fL]
MCH 30.6
MCHC 343
RDW-CV
PLT
MPV
[10^9/L]
Differential
NEUT 3.47 [10^9/L]
LYMPH 1.96 [10^9/L]
MONO 0.31 [10^9/L]
EO 0.11 [10^9/L]
BASO 0.02 [10^9/L]
IG 0.01 [10^9/L]
NRBC 0.0 [/100WBC]

CBC components	increases	decreases
WBC	Inflammation and infection.Leukemia	Vitamin B12 deficiency. Immunodeficiency
Red blood cell (RBC)	Polycythemia. Cardiac failure Smoking	Hemorrhage .Iron Deficiency Anemia.
Hemoglobin (HB)	//	//
Hematocrit (HCT)	Dehydration	Dilution
Mean corpuscular hemoglobin (MCH)	Macrocyti anemia	Microcytic anemia
Mean corpuscular hemoglobin concentration (MCHC)	//	//
Mean spherical volume (MCV)	Macrocyti anemia: Malignant anemia	Microcytic anemia:Iron Deficiency Anemia, Thalassemia
Platelets(PLT)	Hemolytic anemia Splenectomy	Autoimmune disorders


THANKS