

IBLS block final exam for #26 batch 4-10-2022

50 MCQ

PHYSIOLOGY

- 1- what activate Anit- Thrombin III? **Heparin**
- 2- What is true about Factor VII? **increase production by Vitamin K**
- 3- What of the following increase the prothrombin time?
 - Obstruction of bile duct ✓
 - Use of cox inhibitor drugs ✗
- 4- What of the following is secreted by endothelium and inhibit platelet activation ? **Prostacyclin**
- 5-what's the mode of transmission of Hemophilia B? **sex linked**
- 6- what's Important for platelet adhesion? **Collagen**
- 7-what do Thrombin and thrombomodulin activate? **protein C**

MEDICINE

- 1- What is the role if INF- gamma in immunity against tumor ? **Induce tumor death**
- 2-a 16 year old patient came complaining from anemia , he had anemia when he was younger, he had positive family history , what's the diagnosis ? **hereditary anemia**
- 3- How to diagnose AIDS? **Less then 200 CD4**
- 4- patient with DVT presented with hemophilia Factor V lied in was found , what is the mechanism? **Protein C resistance**

PEDIATRIC

- 1- Delayed falling of umbilical stamp is caused by? **LAD**
- 2-A child with bleeding tendency CBC revealed 7000 platelet count , what's the management? **IVIG**

IMMUNITY

- 1-In immunodeficiency we give what to stimulate T cell? **IL-2**
- 2- which of the following cells is responsible for Antibody body mediated cytotoxicity? **NK cell**
- 3- Which of the following is responsible for leukocytes migration from BV to site of injury/infection? **Selectin integrin**
- 4- What type of vaccine do we not give pregnant or immune compromised ? **Live attenuated**
- 5- How T cytotoxic kill the cell?
 - Fas - FasL induce apoptosis ✓
 - granzymes induce pores formation ✗
- 6- a 60 year old male with kidney failure , Had previous kidney transplantation , we did another kidney transplant and he had Hyper acute rejection , we took out the graft, what is the immune basis ?
Preformed Ab because of previous transfusion
- 7-hapten antigen is ? **non immunogenic**
- 8- What of the following make B cell secrete Ab? **C3d from alternative**
- 9-what's true about ABO blood grouping? **people with A antigen don't have A antibodies**
- 10-antibody that give Passive immunity to fetus? **IgG**
- 11- what kind of cell undergoes receptor editing if it's auto reactive? **Immature B cell**
- 12- what are the receptors that help phagocytes in opsonization? **fc gamma receptors and complement receptors**

PHARMACOLOGY

- 1- which of the following is used when anti coagulant therapy is needed for pregnant woman? **heparin**
- 2- what if the following drugs used for Lymphoma cause cardio toxicity? **Doxorubicin**
- 3- what of the following is used as adjuvant in vaccines to increase immunogenicity ? **aluminum hydroxide**
- 4- why we don't give aminoglycosides antibiotic with cyclosporine ?
 - **Nephrotoxicity** ✓
 - **Neurotoxicity**
- 5- Treatment for megaloblastic anemia?
 - Folic acid 1mg** ✓
 - B12 1 microgram** ✗
- 6- Best drug to use instead of percutaneous coronary angioplasty in emergency treatment? **Streptokinase**

COMMUNITY

- 1- What's not right about Stable malaria?
السؤال كانت كل اجاباته صحيحة وتم حذف السؤال

PATHOLOGY

- 1- A child with mediastinal enlargement and difficulty of breathing , we did CT and it revealed large thymus , it revealed CD1,2,3,5,7 what's the diagnosis? **T lymphoblastic leukemia**
- 2- Patient put lotion and 10 hours later he experiences cutaneous necrosis Which type of hypersensitivity? **Type IV**
- 3- A patient came with not painful inguinal lymphadenopathy , We took biopsy and it revealed small lymphocytes with some large lymphocyte ? **Small lymphocytic Lymphoma**
- 4- Graves' disease is considered ? **Hypersensitivity type II**

ANATOMY

- 1- Which prevents downward displacement ? **Phrenicocolic**
- 2- Where does the thoracic duct empty? **Left Subclavian vein and left internal jugular vein**

CLINICAL PATHOLOGY

- 1- What's true about acute myeloid leukemia ? **more than 20% blast in bone marrow**
- 2- Pathophysiology of Acute leukemia ? **Decreased apoptosis , Lack of differentiation**
- 3- A 55 year old patient came with stomach pain and when we did physical examination revealed Splenomegaly , CBC revealed all myeloid series with no anemia and Thrombocytosis, and leucocytosis over 200k what is the diagnosis ? **CML**
- 4- what's Chronic lymphoid leukemia characteristic ? **persistent lymphocytosis more than 10k**
- 5- Jak2 gene is positive in? **Polycythemia rubra vera**
- 6- what's HSP called ? **small vessel vasculitis syndrome**
- 7- the cause of thrombocytopenia in ITP? **accelerated destruction**
- 8- what's given to patient with hemophilia ? **fresh frozen plasma**
- 9- a 9 year old patient came suffering from fever repeated infections and UTI, and purpuric rashes , CBC revealed Thrombocytopenia, anemia and leukocytosis and multiple auer rods, Sudan black was positive , what's the diagnosis? **AML**
- 10- A child came with lymphadenopathy , epistaxis , petechiae, the diagnostic test revealed TdT positive , And CALLA positive ? **ALL**

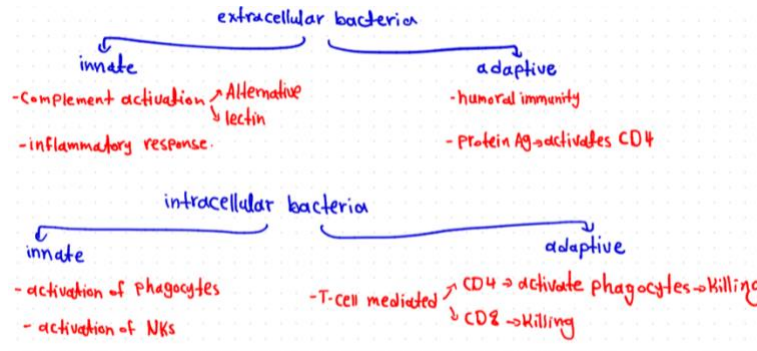
BIOCHEMISTRY

- 1- Antibody that protects the mucosal tissue ? **IgA**
- 2- what gives plasma cells? **B cells**

5 SAQ

IMMUNITY

1 - List two adaptive and innate mechanisms that immune system use to fight infections ?



2 - What are the reactions that happen in the germinal center in the lymph follicle ?

- 1- Ig class switching
- 2- Affinity maturation
- 3- Long lived plasma and memory cells

PATHOLOGY

1 - give 4 mediators of hypersensitivity type I?

- 1- Histamine
- 2- Chemotactic factors
- 3- Enzymes
- 4- PGD2
- 5- Leukotrienes

CLINICAL PATHOLOGY

1 - give 4 the complication of blood transfusion?

- 1- Haemolytic Transfusion Reaction
- 2- Febrile reactions because of white cell antibodies
- 3- Post transfusion purpura
- 4- Anaphylactic reactions
- 5- Transfusion of bacterially contaminated blood
- 6- Iron overload

2 - Mention 4 AML types according to FAB with diffention of each one?

FRENCH AMERICAN BRITISH (FAB) CLASSIFICATION OF AML:-

1. **AML – M0 : Undifferentiated Myeloblastic leukaemia** ; require cell markers , we can't tell it's which type of blasts so we have to do **immunophenotyping**
2. **AML – M1: Myeloblastic without maturation**; can't be identified by morphology because it lacks granules (Auer Rods) requires **peroxidase stain or Sudan Black B stain ; Cytochemistry**
3. **AML – M2: Myeloblastic with maturation** ; Clear by all steps of diagnosis, Morphology , cytochemistry, Immunophenotyping , Cytogenetics
4. **AML – M3: Acute Promyelocytic Leukaemia**; Hypergranular promyelocytes , We see a lot of promyelocytes in bone marrow
5. **AML – M3 VARIANT**: Micro or Hypogranular promyelocytes
6. **AML – M4: Acute Myelomonocytic leukaemia**; with both **granulocytic** and **monocytic maturation**
7. **AML – M5: Acute Monoblastic Leukaemia**→Monoblast is affected
8. **AML – M6: Erythroleukaemia** , affect the erythroid series , in bone marrow erythroid to myeloid ratio will show higher erthroid percentage , instead of 33% we find 70% **abnormal** erythrobals
9. **AML – M7: Acute megakaryoblastic Leukaemia** , affect megakaryocyte

OSCE IBLs (5-10-2022)

③ Iron & Anemia (Microcytic hypochromic) + ↑ RDW + pencil-shaped RBC

Department of Hematology			
Name	Female patient	Age	18 years
Date		Lab No.	
Section			
Diagnosis			

Report			
Complete Blood Picture			
		Differential leucocytic count	
WBCs	8.1 $\times 10^9/L$	Band	1 %
RBCs	3.54 $\times 10^{12}/L$	Polymorphs	57 %
HGB	6.1 g/dl	Lymphocytes	32 %
HCT	28.9 L/L	Monocytes	4 %
MCV	56.2 fL	Eosinophils	3 %
MCH	16.9 pg	Basophils	1 %
MCHC	29.7 g/dl		
Platelets	254 $\times 10^9/L$		
Reticulocytes	0.7 %		

Peripheral blood films show hyperchromatic microcytic cells with anisocytosis and poikilocytosis. Occasional target cells and pencil-shaped cells are present.

Serum ferritin: 1 ng/mL (Normal for Adult Female: 20-250 ng/mL) ↓
 Serum folate: 0.9 µg/L (Normal for Adult Female: 4.5-17.5 µg/L) ↓
 Serum B12: 100 pg/dL (Normal: 200-900 pg/dL) ↓ - Impairing

1- What's your diagnosis?
Iron deficiency anemia

Differential leucocytic count			
WBCs	3.5 $\times 10^9/L$	Band	3 %
RBCs	3.84 $\times 10^{12}/L$	Polymorphs	57 %
HGB	7.1 g/dl	Lymphocytes	30 %
HCT	27.9 L/L	Monocytes	6 %
MCV	118.2 fL	Eosinophils	3 %
MCH	34.3 pg	Basophils	1 %
MCHC	32.7 g/dl		
Platelets	100 $\times 10^9/L$		
Reticulocytes	0.3 %		

Peripheral blood films show the presence of oval macrocytes and hypersegmented neutrophils.

Bone marrow aspirate examination revealed the presence of giant band and metamyelocytes. Erythroblasts are large and show failure of nuclear maturation but haemoglobinization is normal.

Serum vit. B12: 260 ng/L (Normal: 160 - 925 ng/L) ↓
 Serum folate: 0.9 µg/L (Normal: 3.0 - 15.0 µg/L) ↓
 Red cell folate: 40 µg/L (Normal: 160 - 640 µg/L) ↓

2- What's your diagnosis?
Folic Acid deficiency anemia

Name	Female MS	Age	9 years
Date		Lab No.	
Section			
Diagnosis			

Report: A			
Complete Blood Picture			
		Differential leucocytic count	
WBCs	8.1 $\times 10^9/L$	Band	1 %
RBCs	2.54 $\times 10^{12}/L$	Polymorphs	75 %
HGB	6.1 g/dl	Lymphocytes	21 %
HCT	28.9 L/L	Monocytes	1 %
MCV	87.2 fL	Eosinophils	1 %
MCH	28 pg	Basophils	1 %
MCHC	30.7 g/dl	NRBCs	2/100 WBCs
Platelets	200 $\times 10^9/L$		
Reticulocytes	9.7 %		

Peripheral blood films show severe anemia with anisocytosis and poikilocytosis, fragmented cells, polychromatic red blood cells and normoblasts(2) are present.

Hemoglobin Electrophoresis: Hb S 60% = Sickle cell Anemia

What's your diagnosis?
Sickle cell anemia

Complete Blood Picture			
		Differential leucocytic count	
WBCs	160 $\times 10^9/L$	Myeloblast	1 %
RBCs	3.9 $\times 10^{12}/L$	Promyelocytes	2 %
HGB	10.9 g/dl	Myelocytes	16 %
HCT	L/L	Metamyelocytes	10 %
MCV	fL	Band	10 %
MCH	pg	Polymorphs	54 %
MCHC	g/dl	Lymphocytes	4 %
Platelets	390 $\times 10^9/L$	Monocytes	1 %
Reticulocytes	1 %	Eosinophils	0 %
		Basophils	2 %
		NRBCs	0

Comment:
LAP score is zero
Philadelphia Chromosome is positive

What's your diagnosis?
CML

④ Hemophilia B (↓ IX)

Faculty of Medicine			
Department of Hematology			
Name	BA Male	Age	7 years
Date		Lab No.	
Section			
Diagnosis	Haemophilia		

Report			
Complete Blood Picture			
		Differential leucocytic count	
WBCs	9.1 $\times 10^9/L$	Band	1 %
RBCs	4.54 $\times 10^{12}/L$	Polymorphs	55 %
HGB	13.1 g/dl	Lymphocytes	41 %
HCT	28.9 L/L	Monocytes	1 %
MCV	87.2 fL	Eosinophils	1 %
MCH	28 pg	Basophils	1 %
MCHC	30.7 g/dl	NRBCs	0/100 WBCs
Platelets	240 $\times 10^9/L$		
Reticulocytes	1.1 %		

Prothrombin time is normal
 PTT is prolonged
 Factor IX is below normal
 Platelets function is normal
 ANCA is negative

What's your diagnosis?
Hemophilia B

⑤ Acute Leukemia = bone marrow failure (Leukocytosis + ↓ platelet + Anemia)

OAML

Department of Hematology			
Name	ML	Age	18
Date		Lab No.	
Section			
Diagnosis	Splenomegaly and Generalized lymphadenopathy		

Complete Blood Picture			
		Differential leucocytic count	
WBCs	135 $\times 10^9/L$	Band	2 %
RBCs	2.64 $\times 10^{12}/L$	Polymorphs	5 %
HGB	5.2 g/dl	Lymphocytes	9 %
HCT	26.5 L/L	Monocytes	1 %
MCV	80.2 fL	Eosinophils	1 %
MCH	28.3 pg	Basophils	0 %
MCHC	33.7 g/dl	NRBCs	0
Platelets	18 $\times 10^9/L$		
Reticulocytes	0.8 %		

Comment:
8.4% is hyper-cellular with 40% blast cells and these cells are positive for:
 Sudan Black stain: Positive (Sudan: 40% - 50%)
 CD 13 and CD 33: Positive

What's your diagnosis?
AML



Pediatrics:-

A 5 year old child came to the clinic with this, write three differential diagnosis ?
ITP , TTP, HSP



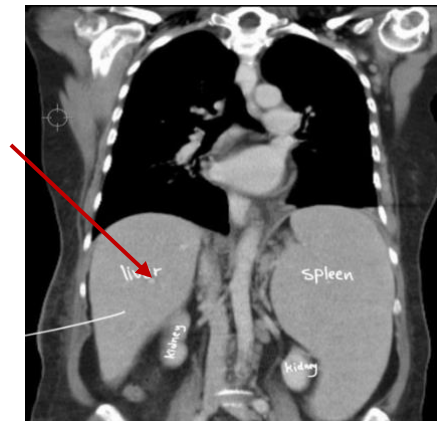
Medicine :-

- A. What's the name of this examination ?
Lymph nodes examination (Anterior cervical)
- B. Mention 2 causes?
Infection – lymphoma - leukemia



Medicine :-

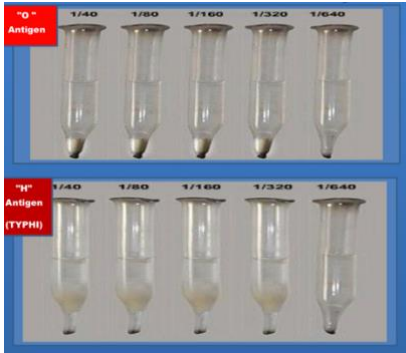
- A. What's the name of the technique?
Two hands technique
- B. Mention two infectious causes of splenomegaly?
HIV malaria CMV



Radiology :-

- A. What's the pointed organ?
Liver
- B. Mention one abnormality in this picture that is usually seen in leukemic patients?
Splenomegaly

OSPE IBLS (5-10-2022)



Immune :-

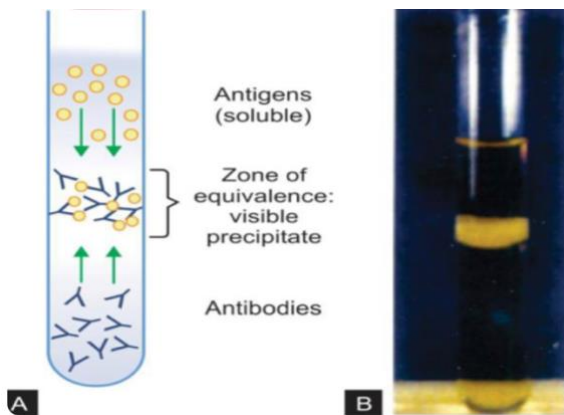
- Mention the name and type of the test?
Widal test, Direct tube agglutination test
- Mention universal standard titer value for the widal?
1/80



Immune :-

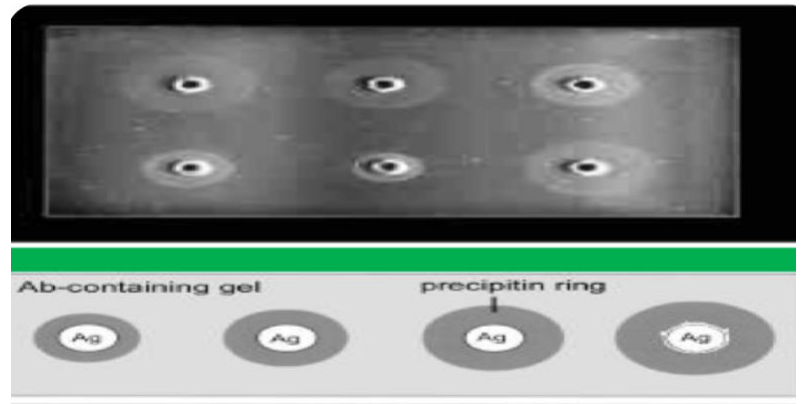
We did this to test hemolytic anemia

- Mention the name and type of the test?
Direct coombs test
- Interpret observation and result?
Negative



Immune :-

- Mention the name and type of the test?
Ascoli ring test
- Give one example?
Anthrax disease



Immune :-

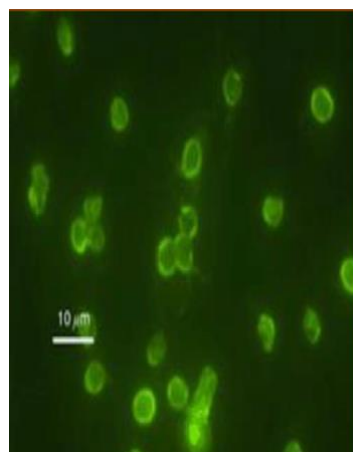
- Mention the name and type of the test?
Mancini technique- Single diffusion in two dimensions
- What is the use?
Measure IgA, IgM, IgG



Immune :-

We wanted to detect serum antibodies

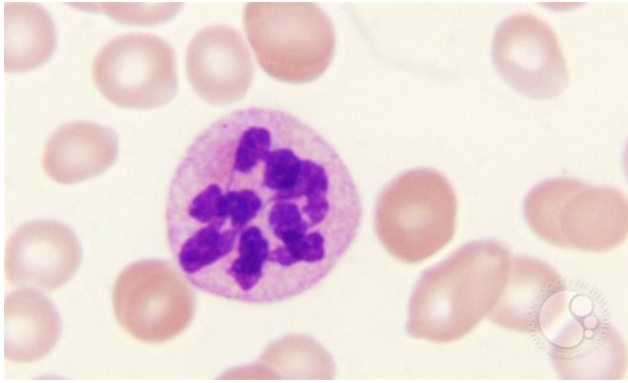
- Mention the name and type of the test?
Indirect ELISA plate
- How do we know it's positive? Color intensity



Immune :-

We wanted to detect serum Ab

- Mention the name and type of the test?
Indirect immunofluorescein test
- What is the dye used?
Fluorescein dye



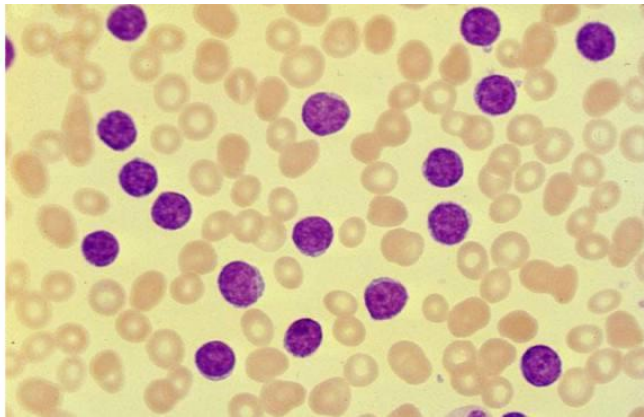
Clinical pathology :-

- A. What is the name of this cell?
Hypersegmented neutrophil
- B. What causes increase in this cell number?
Megaloblastic anemia



Clinical pathology :-

- A. What is the name of this tube and what is the content?
Green cap, Heparin
- B. What is it used for?
Biochemical tests



Clinical pathology :-

A 60 year old patient showed this blood film , what is your diagnosis?
CLL



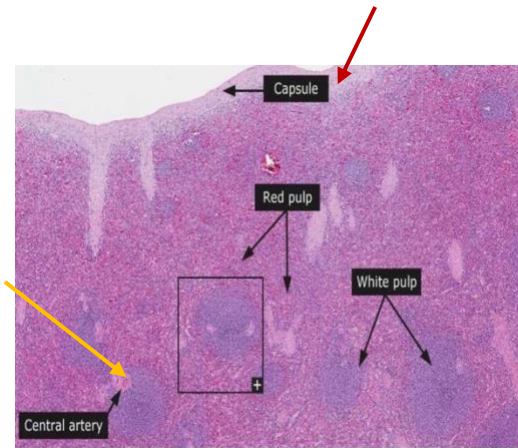
Clinical pathology :-

- A. Identify?
Blood bag
- B. Mention 4 tests done to the donor written on the blood bag?
 - ABO blood group
 - Rh D antigen
 - Rh EeCc antigen
 - Kell antigen
 - Serology and NAT
 - Malaria



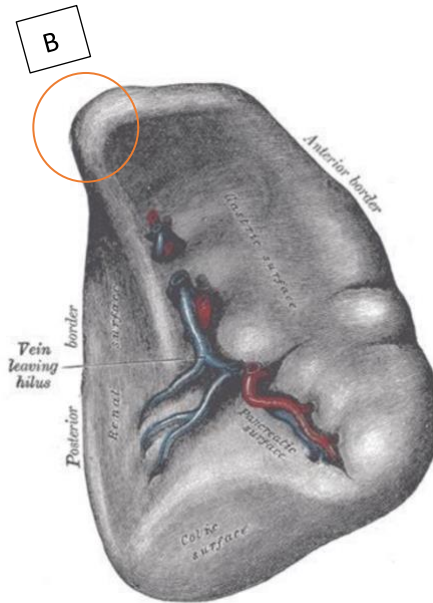
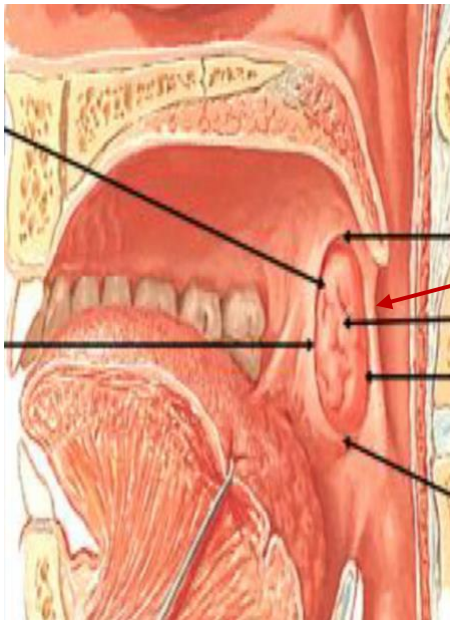
Clinical pathology :-

Identify blood group?
B negative



Histology :-

- A. Identify the red pointed structure ?
capsule
- B. Identify the yellow pointed structure?
Central Artery



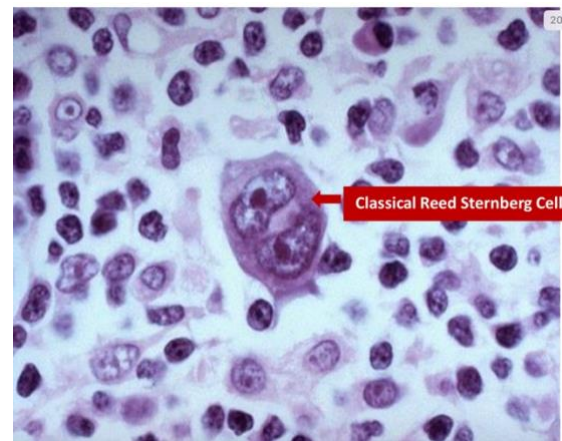
Anatomy:-

- A. Identify A? Palatopharyngeal fold
- B. Identify B? Posteromedial pole



Pathology

- A. What is this case called?
Angioedema
- B. What's the antibody responsible for this case?
IgE



Pathology

- A. Identify this lesion?
Hodgkin lymphoma mixed cellularity
- B. Describe microscopic pic?
Loss of normal pattern replaced by heterogeneous cellular infiltrate, which includes lymphocytes, eosinophils, plasma cells, and macrophages admixed with Reed-Sternberg cells, mainly classic (owl eye cell) and mononuclear variants.

