



PATHO OSPE

Community Medicine



AZRA NAHEED MEDICAL COLLEGE
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DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

OSPE TEST held on 16/12/2016

STATION R-5



- 5-a. Observe these gross specimen and name the pathological lesion. (01)
- b. What is this finding seen (arrow) on microscopic examination of the same gross specimen. (01)
- c. Which tumors can develop in these patients. (02)

①

a) asbestosis

b) asbestos body

c)

mesothelioma

carcinoma Larynx, Lung, Stomach, Colon



A 40-year-old female with a four-month history of abdominal pain and enlargement is found to have a right ovarian mass on CT. Parapancreatic, gelatinous cloudy fluid containing psammoma bodies and cuboidal cells, serum CA-125 is markedly raised. Surgery is performed and the ovarian mass shows area of papillary growth on the surface.

1. What is the likely diagnosis? (1)
2. What is the name of its benign counterpart? (1)



A 48 years old female with a four months history of abdominal pain and enlargement is found to have a right ovarian mass on CT. Paracentesis yields serous fluid Serum CA-125 is markedly raised. Surgery is performed and the ovarian mass shows area of papillary growth on the surface lined by stratified cuboidal to columnar epithelium with marked atypia, mitosis, psammoma bodies and infiltration into underlying stroma.

1. What is the likely diagnosis?
2. What is the name of its benign counterpart?

②

① serous cystadenocarcinoma

② Serous cystadenoma

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE





1. Identify the lesion of lung.
2. What organism is responsible of this lesion?
3. Name four classical stages of this lesion.

1. Lobar pneumonia
2. Pneumococcus
 - a. (i) Congestion
 - b. Red hepatization
 - c. Gray hepatization
 - d. Resolution

3

a) Lobal Pneumonia

b) Pneumococcus

Mycoplasma Pneumoniae

Legionella

Gram -ve rods

c)

Congestion

red - hepatization

grey - hepatization

Resolution

d)

complication

Abcess formation

Empyema

Bacteremic dissemination



A young boy of 11 years presented with painful enlarging-mass in the diaphysis of his left femur and imaging studies showed destructive lytic and ONION-SKIN Lesion of tumor which has infiltrative margins and extending into surrounded soft tissue.

- A. What is the diagnosis of this lesion? *Ewing Sarcoma*
- B. What is pathogenesis of this lesion?
- C. Give its morphology. *soft, translucent tan-white, uniform sheets*

4

Onion Skin Lesion

a) Diagnosis

Ewing sarcoma -

b) Pathogenesis:

11-22 gene translocation
EWS gene on chromosome 22 to FLI1.

c) Morphology:

gross

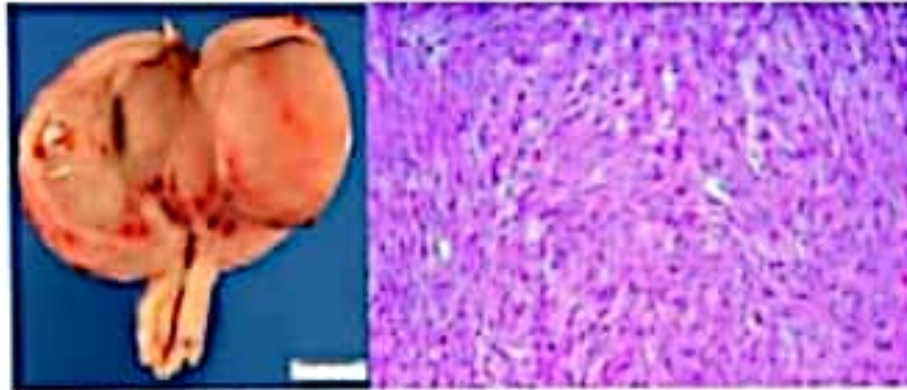
- Soft, tan white
- Hemorrhage & necrosis

Microscopy

- Sheets of small round blue cells.
- Scanty ill-defined cytoplasm -
- Fibrous septa -

SGD (leiomyoma)

A 42 year old woman has complaints of heavy menstrual periods that last for several days. This has been occurring for the past three months and has been associated with pain and fatigue. Physical examination reveals an enlarged uterus with multiple palpable masses. Lab tests shows her Hb level is 11.3g/dl and haematocrit is 33%.



1. What is the most likely diagnosis?
2. Enumerate the sites of involvement of this tumor.
3. How does the size of this neoplasm change under the hormonal influences?
4. Give the microscopic appearance of this neoplasm.
5. Name its variants.
6. What is the name of its malignant counterpart?
7. How are leiomyomas distinguished from leiomyosarcomas and what is the importance of mitotic count.

SGD



A 45 years old female presented with multiple masses in uterus.

(b)

a) Leiomyoma,

• HMGIC gene

b) Distinguish:

- Cellular Atypia.
- Mitotic Rate.
- Necrosis.
- Benign (Leiomyoma)
- Malignant (Leiomyosarcoma)

c) All tumours contain high nuclear atypia, 5 mitoses per 10 high power field malignancy.

gross:

d) Sharply circumscribed discrete round firm grey white tumour.

microscopy:

Whorled bundle of smooth muscle cells.
Oval nuclei

251.

Leiomyoma:

Sites:

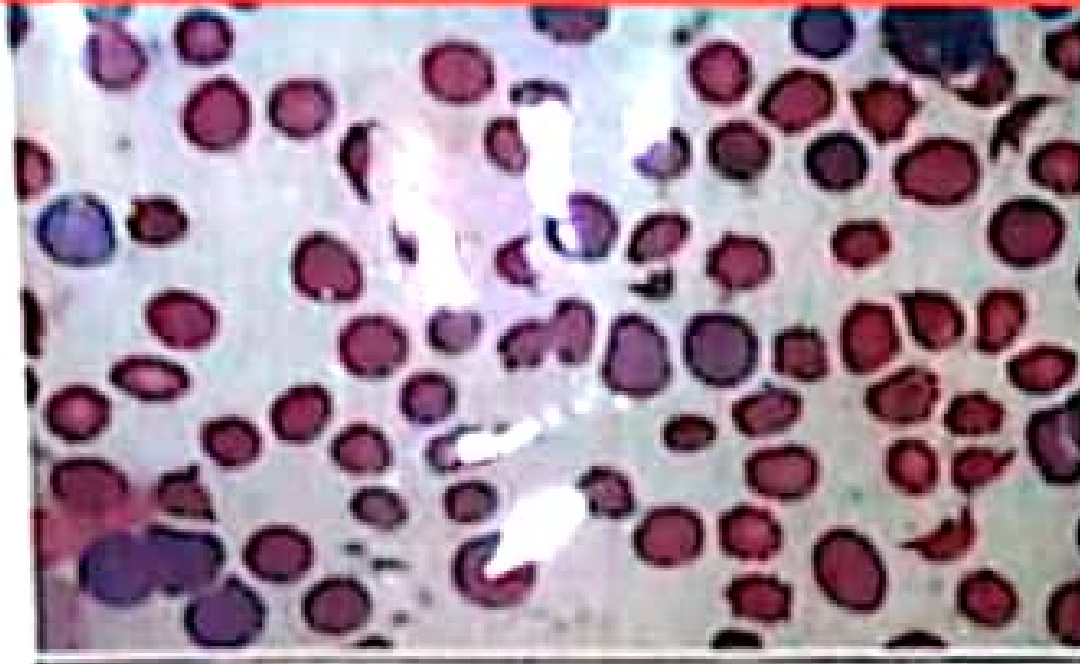
- Submucosal
- Serosal
- Intra-mural

malignant:

Leiomyosarcoma

OSP patho

cells



Carefully examine the given photograph and answer the following questions.

a. Identify this lesion? (0.5)

b. What are the identification points? (01)

c. What are the laboratory findings of this lesion? (02)

D-dimers elevated

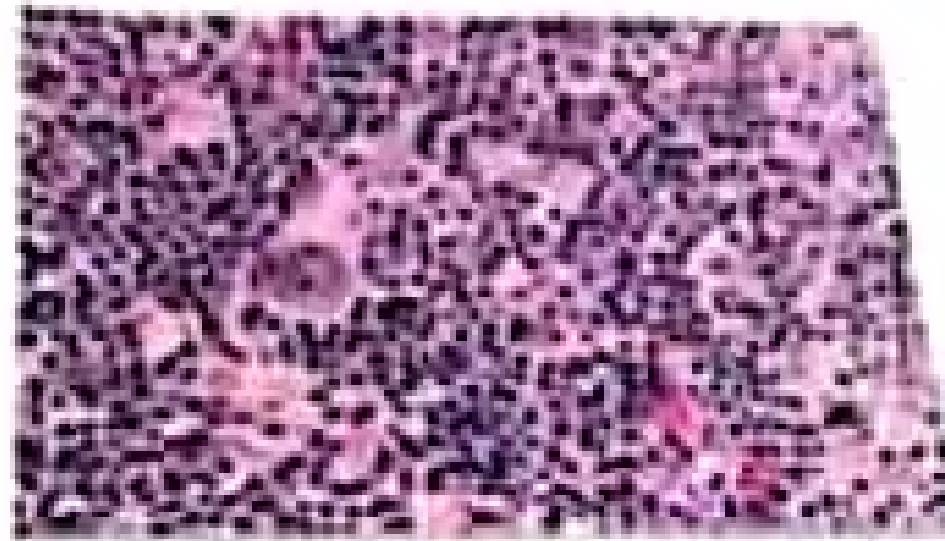
Prolonged PT

Prolonged bleeding time

- ⑦ - a) DIC with Microangiopathic
Haemolytic Anemia
- b) Identification Point: schistocytes, Burr
cells
- c) Lab finding: Fibrinogen ↓
Platelets ↓ - ↑ PT, APTT ↑

Microbiology for Pathologists, 4th ed., Chapter
2009 First edition copyright

STATION 8



A 25 year old female presented in OPD with the symptoms of fever, weight loss, and cervical lymphadenopathy. Her CBC was normal lymph node biopsy is shown.

1. Which stain is used in this slide? (2)

2. What is your diagnosis? (1.5)

Hodgkin

3. Which cell is the malignant component? (1)

8.

- a) Hodgkin Lymphoma =
- b) RS cells -
- c) Neoplastic giant cells -

A 30 year old man presented in emergency department with history of fever, malaise and skin lesions. Echocardiography revealed a mass in heart.

Below is the gross and microscopic picture of the lesion. Carefully examine the picture and answer the following questions.



- a. What is the most likely diagnosis. 1
- b. Is this a benign or malignant lesion 0.5
- c. What is the favoured site of this lesion. 0.5
- d. Which syndrome is associated with these lesions. 1

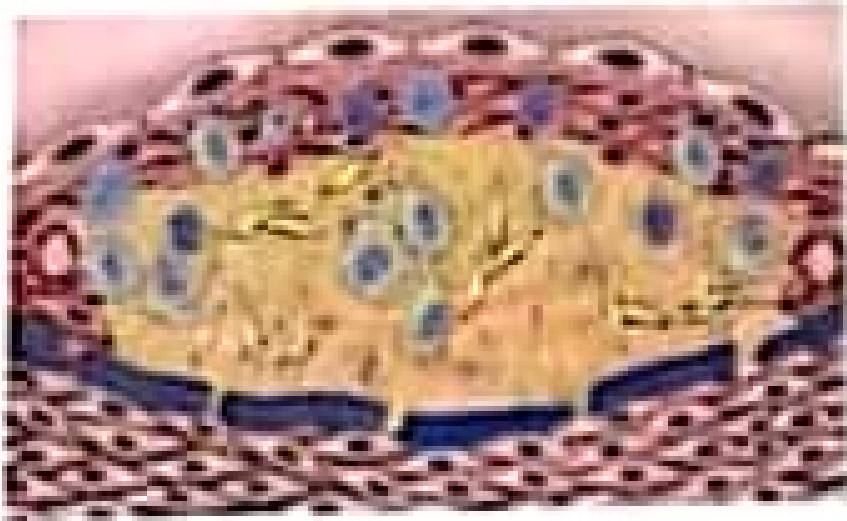
9)

a). Ataxial Myxoma.

b). Benign.

c). Fosse Oculis Right Ataxium.

d). Carney Syndrome, MacCune Albright Syndrome



- What is the process known as ? 1
- What type of arteries are the main target of this lesion? 1
- Name the arteries it most commonly involves? 1

10).

a). Atherosclerosis.

b). Medium and large sized arteries

c). Most commonly,
Lower Abdominal Aorta.
Commonly Aorta
Popliteal Artery.
Circle of Willis.

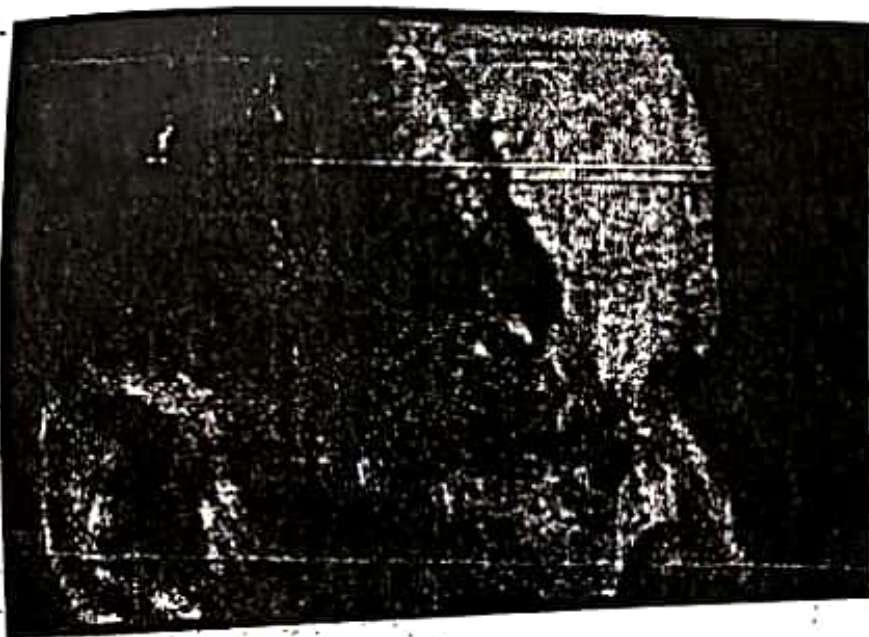
SGD

Topic: vasculitis

Scenario#1

A 55 year old man presents with right sided facial pain with palpable left temporal artery as shown in the figure. Biopsy of the artery reveals fragmentation of internal elastic lamina, with granulomas containing langhan and foreign body giant cells

Giant cell (Temporal) Arteritis



Q1: what is the diagnosis?

Q2: List three pathogenic mechanisms involved in non infectious vasculitis?

Q3: which vessels are involved in takayasu arteritis? Aortic arch, its branches & pulmonary, coronary & renal arteries.

Immune complex deposition
Anti endothelial cell antibodies
ANCA
Antineutrophil cytoplasmic antibodies
Autoreactive T-cells

12) a) Giant cell Arteritis.

b) Mechanism.

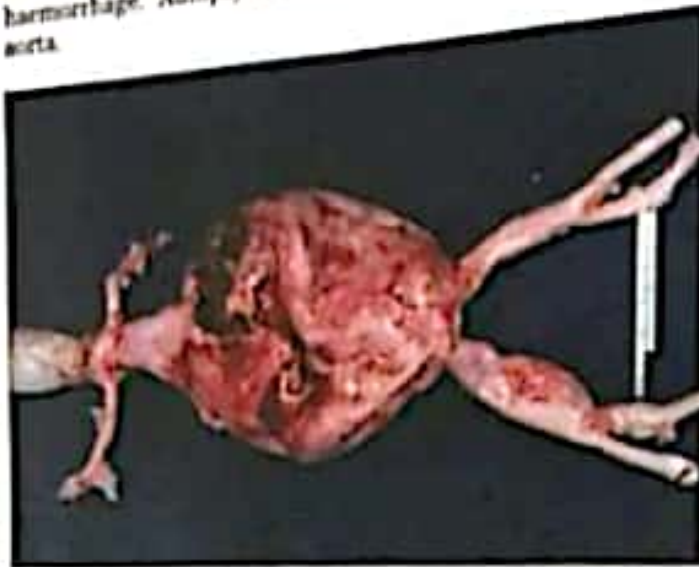
- Immune Mediate
- ANCA.
- Anti-Endothelial. (Autoactive T-cells)

c) Targets:

- Aortic Arch
- Pulmonary Artery
- Coronary artery -
- Renal Artery

Antibody-dependent cell-mediated cytotoxicity

A 60 years old known hypertensive who is also a chronic smoker went for routine medical checkup and found to have a pulsating abdominal mass. Few days later he died because of massive haemorrhage. Autopsy findings revealed the following changes in aorta.



- What is the diagnosis? 1
- What can be the complications of this lesion? 1
- What part of aorta is most commonly involved in this lesion? 1

- AAA abdominal aortic aneurysm
- rupture into peritoneal cavity, obstruction of vessels branching from aorta, embolism, impingement on adjacent structure
- abdominal aorta

11) a) Abdominal Aortic Aneurysm

b) Complications:

- Rupture into peritoneal cavity
- Obstruction of vessels,
- mural Thrombi.

c) Part: Abdominal Aorta.

d) factor Associated: Hypertension & Atherosclerosis

e) Microbe: Circulating micro-organisms in wall,



55 year old male presented to OPD with a complain of tinnitus, vertigo. On examination, his face and hands were plethoric. His labs showed Hb 22 g/dl, Hct 55%, MCV 90fl, MCH 24.5%, RBC count $7 \times 10^{12}/l$, ESR 0. TLC $15 \times 10^9/l$.

carefully examine the given photograph and answer the following questions

What is the diagnosis?

Polycythemia

How will you confirm it?

What would be the erythropoietin level?

12

13). a) Polycythemia Vera,

b). Confirmatory Test: Erythropoietin level

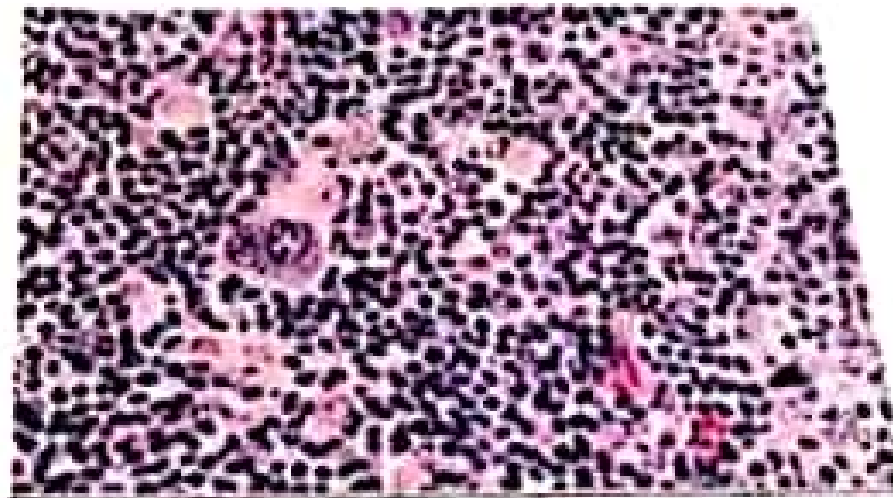
c). Polycythemia Vera: Low level.

Secondary Polycythemia: Normal or High.

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

EMPE TEST held on 16/11/2016

STATION # - 8



A 25 year old female presented in OPD with the complaints of fever, weight loss, and cervical lymphadenopathy. Her FBC was normal lymph node biopsy is given.

1. Which stain is used in this slide? (01)
2. What is your diagnosis?(1.5)
3. Which cell is the malignant component?(1)

14). 1). Stein: H 288 Stein.

2). Hodgkin Lymphoma

3). Malignant component: RB cells.

STATION 8 - 7

AML
delphia



A 40 year old male presented with fever and splenomegaly. His Lab counts are Hb:9g/dl,WBC 165000,platelets:765000,Pro-myelocytes:8%; myelocytes 3% metamyelocytes 13%, neutrophils 37%, blast cells 3%, eosinophils 2%stabs.7%

- What is the diagnosis?
- Which chromosomal abnormality is consistently seen in this disorder?
- Which stain is used in preparation of this slide?

15) -

a). CML.

b). 9:22 chromosomal

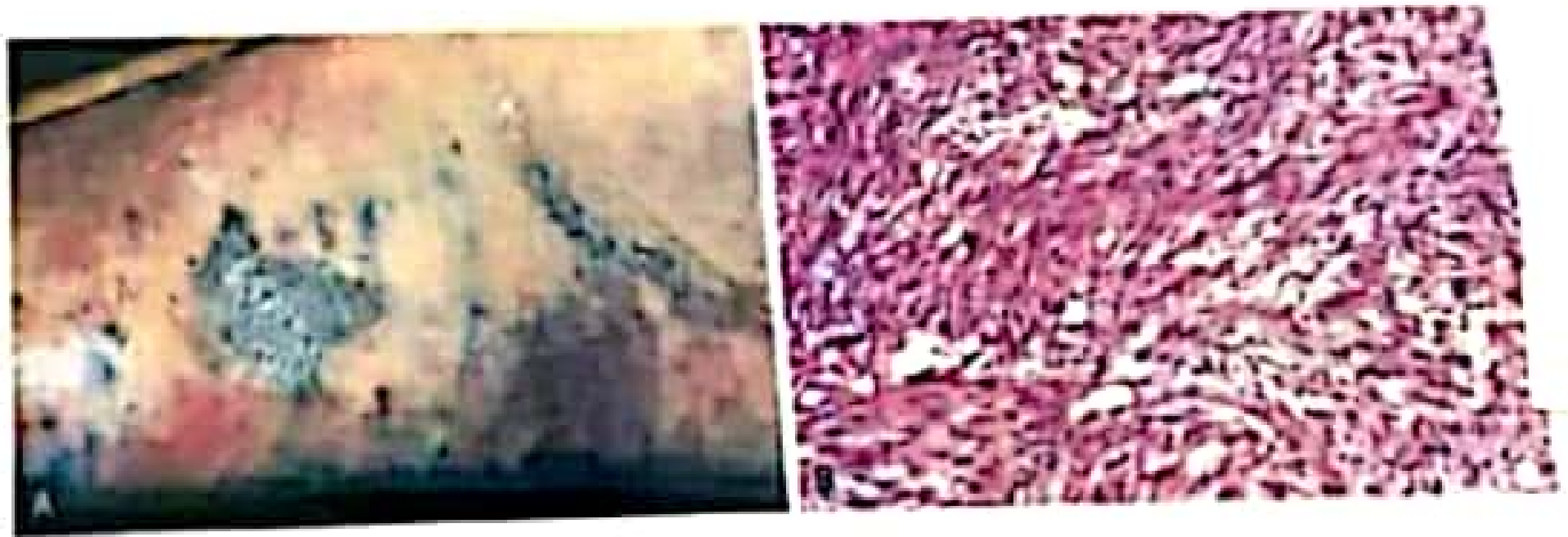
c). Sudan Black, MPO.

Orpe Station:

Topic CVS(Vessels)

A 35 year old male presented with a rash and plaque like lesion on calf, he is also diagnosed with AIDS.

The Lesion seems to be associated with HIV8.



Q-1 What is the diagnosis. 1

Q-2 Name 3 common stages of above lesion. 2

Q-3 Name most common benign tumour of blood vessel. 1

18).

a).

Kaposi

Sarcoma

b).

Patches,

Plegures,

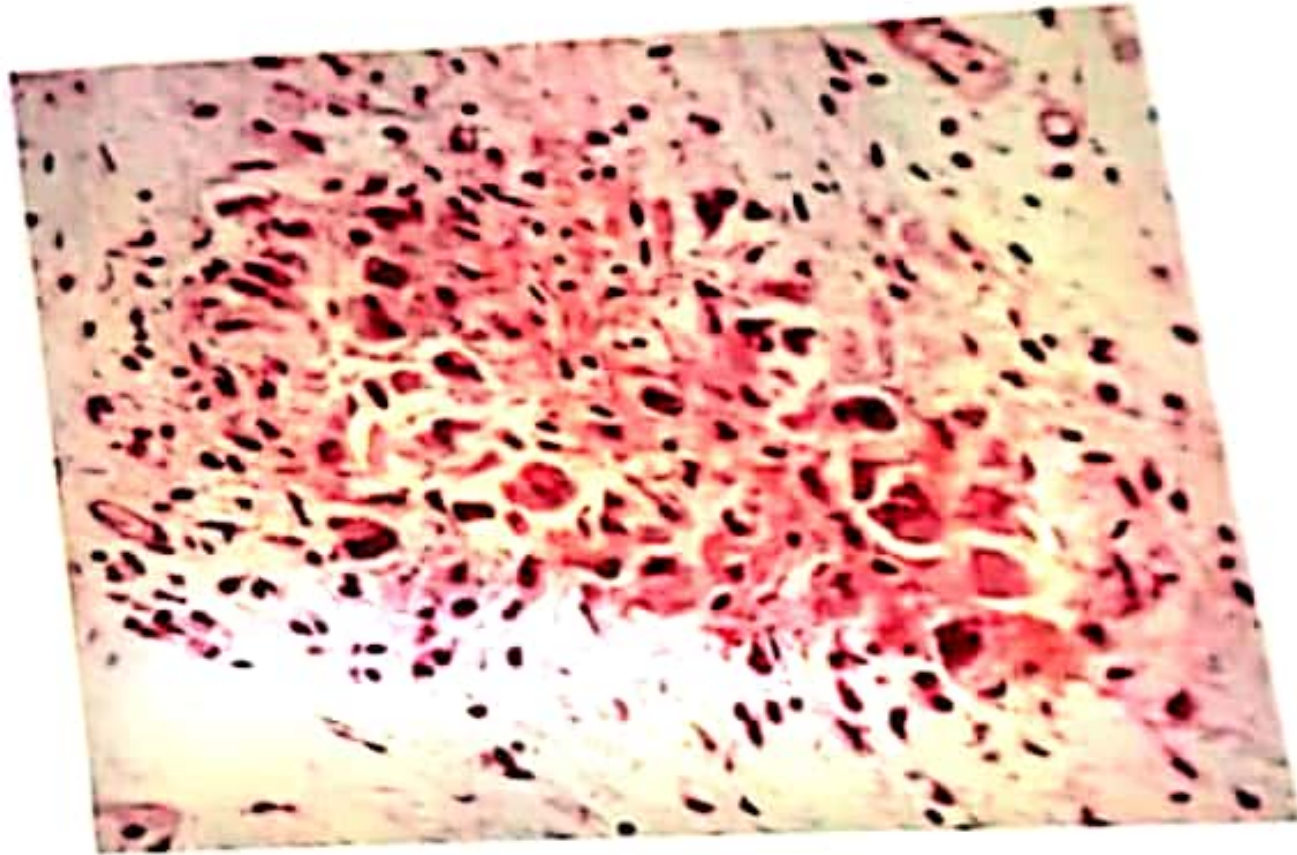
Nodules

c).

Capillaries

Hemangioma

A 29 years old male was diagnosed as a case of Rheumatic heart disease. He had vegetations along the line of closure of valves. Biopsy of the vegetations revealed the following morphology.



- Identify the lesion. (1)
- What is the composition of this lesion (1)
- Which valve is commonly involved by this lesion. (1)
- How will you diagnose a case of Rheumatic Heart Disease (1)

17) a) - Aschoff bodies

b), foci of T lymphocytes,
plasma cells,
plump activated macrophages
(Anitschkow cells).

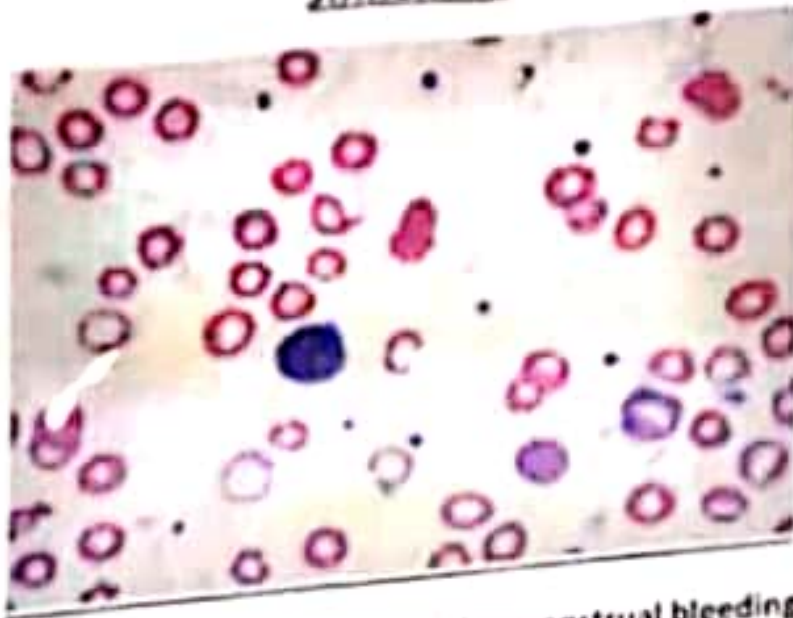
c), mitral valve,

d), Jones criteria.

Iron deficiency ane

DEPARTMENT OF PATHOLOGY AND LABS
OSPE TEST held on 14/12/2019

STATION # - 8



A 45 year old female presented with excessive menstrual bleeding for the last one year. She looked pale, her Full blood picture showed Hb 8g/dl, MCH 19pg, MCV 60 fl, serum ferritin was reduced and peripheral smear was taken.

- Describe the RBC morphology in one line. (0.5)
- What type of anemia is it? (01)
- Name two other microcytic hypochromic anemias? (02)

16)-

a). ~~Iron deficiency Anemia.~~

morphology:

~~1~~

- Microcytic, Hypochromic Anemia
- Cells with enlarged pale areas
- Pencil cells.

b). Microcytic Anemia.
Iron deficiency.

c). • Lead poisoning.

• Anemia of chronic disease.

STATION # 9



A 8 year old African child who presented with severe anemia and splenomegaly. His complete blood counts are Hb 5gm/dl; MCV 80 FL; MCH 28pg; MCHC 32%. HB electrophoresis showed increased Hb.

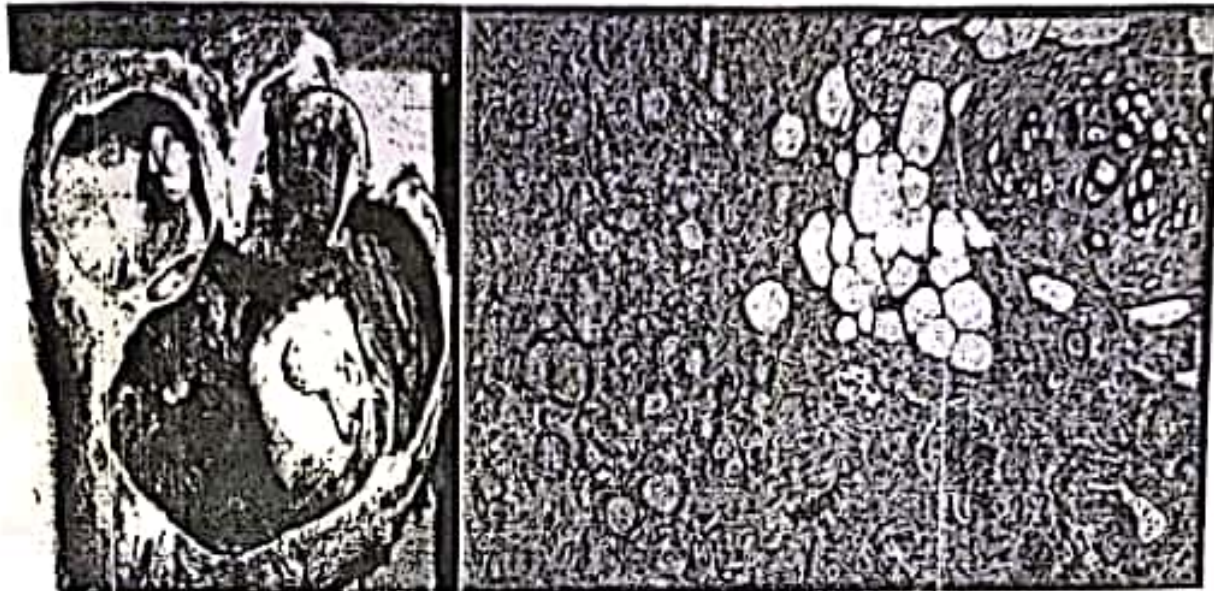
1. What is the diagnosis? (01)
2. What is the pathology of this anemia? (03)

19) a) Sickle cell Anemia

b) Mutation in Beta Chain
of Chromosome 11, 6th gene
glutamate is replaced by Valine
causing microvascular obstruction
and ischemic damage

Teratoma :-

An adult female was diagnosed as having a testicular mass which on gross examination was found to have hair and tooth impacted within the cystic cavity. The microscopic section is shown in the picture above.



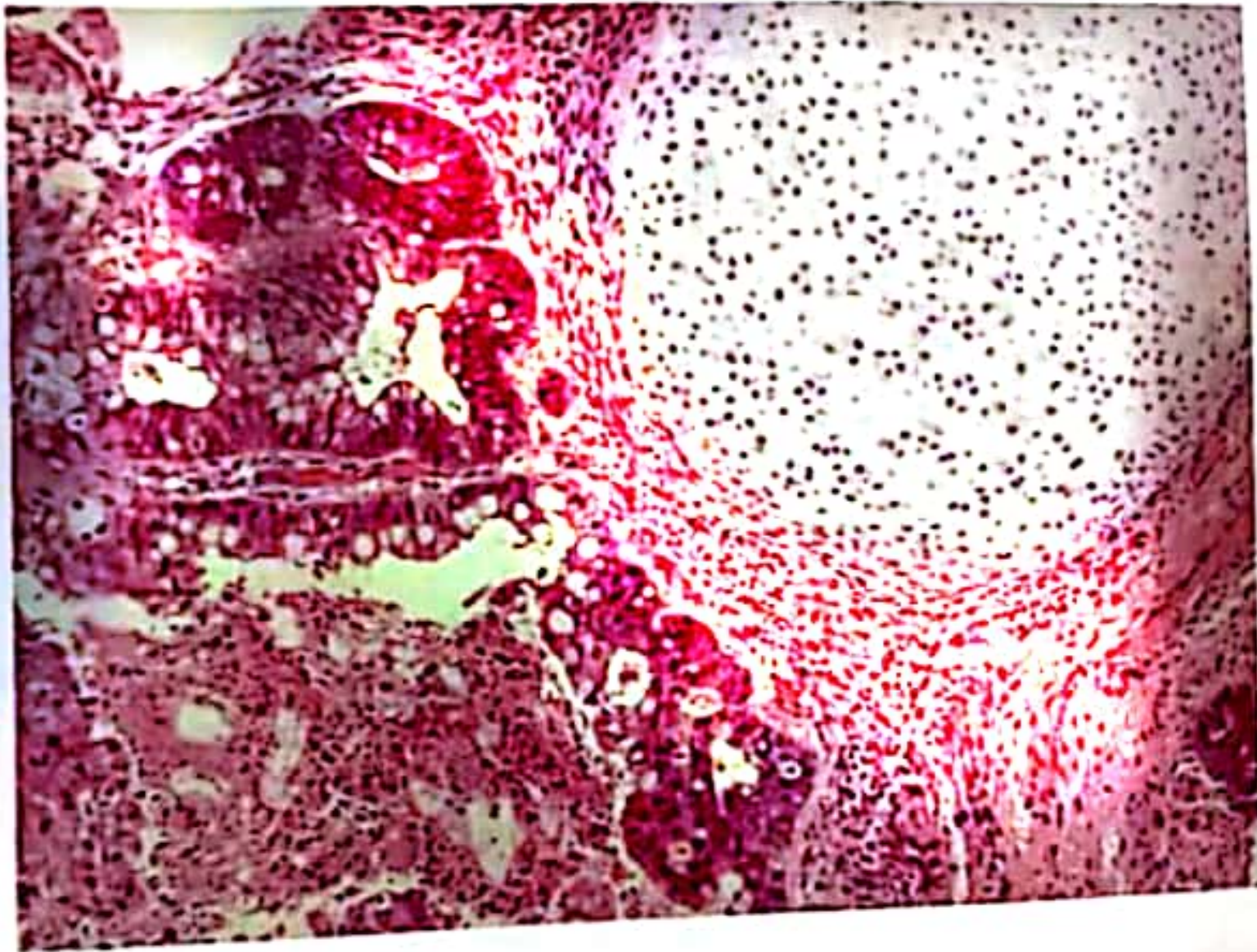
1. What is diagnosis? Teratoma
2. Describe the morphology of above lesion.
3. What is "teratoma with malignant transformation"?
4. Classify TESTICULAR TUMORS.



A 20 year old boy presented with testicular mass.

a- Identify the components 1

b- Give classification of testicular tumours 2



A 20 year old boy presented with testicular mass.

23)

a) - Teratoma

b) - → Unilocular cyst
containing Hair and sebaceous
material.

- Microscopy:

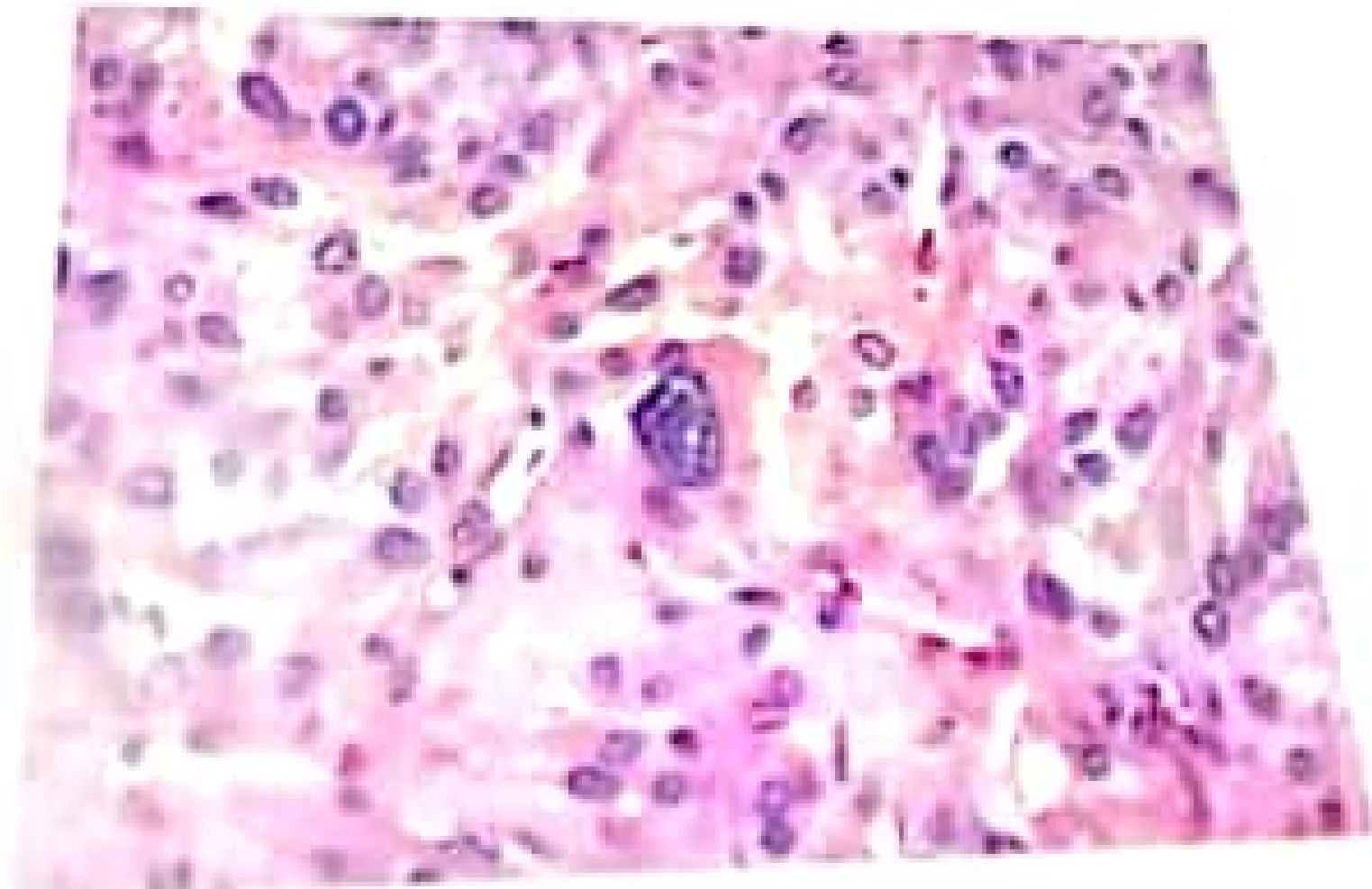
~~lined~~ - Stratified Squamous
Epithelium.

- Cartilage, Bone, thyroid
tissues.

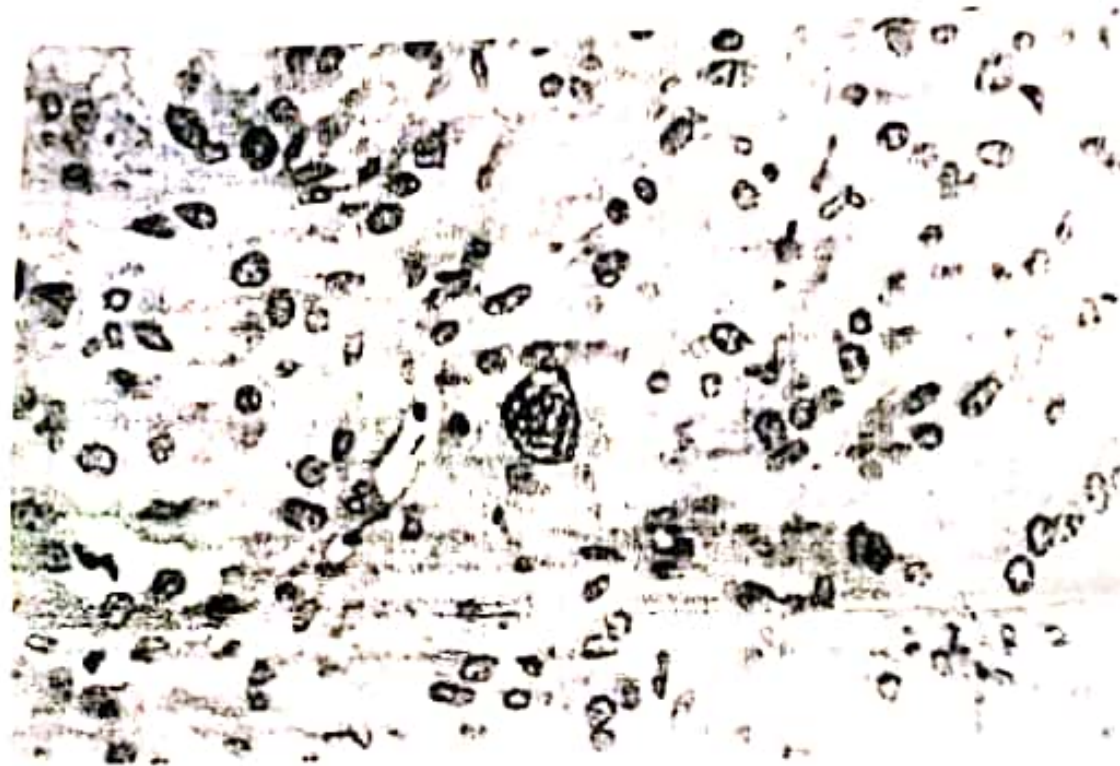
c) - When non-germ cell tumors
arise from teratoma is
called malignant transformation.

d) - Component: Cartilage, Bone,
Neural, Intestinal

A 37 years old woman experiences episodes of palpitation, tachycardia, tremors, diaphoresis, headache and hypertension over the past three months. Her lab investigations show increased urinary excretion of catecholamines and Vanillyl mandelic acid. The biopsy of adrenal medulla shows the following features.



A 37 years old woman experiences episodes of palpitations, tachycardia, tremors, diaphoresis, headache and hypertension over the past three months. Her lab investigations show increased urinary excretion of catecholamines and Vanillyl mandelic acid. The biopsy of adrenal medulla shows the following features.



1. What is your diagnosis? 1134 *Pheochromocytoma*
2. What is the characteristic morphologic pattern of this lesion?
3. What do you know about the rule of 10s? 1134

2)) -

a).

Pheochromocytoma.

b).

- o Salt and pepper pattern.
(Chromogranin cells).
- o Zellballen pattern.

c).

10%.

malignant.

10%.

not associated with hypertension

10%.

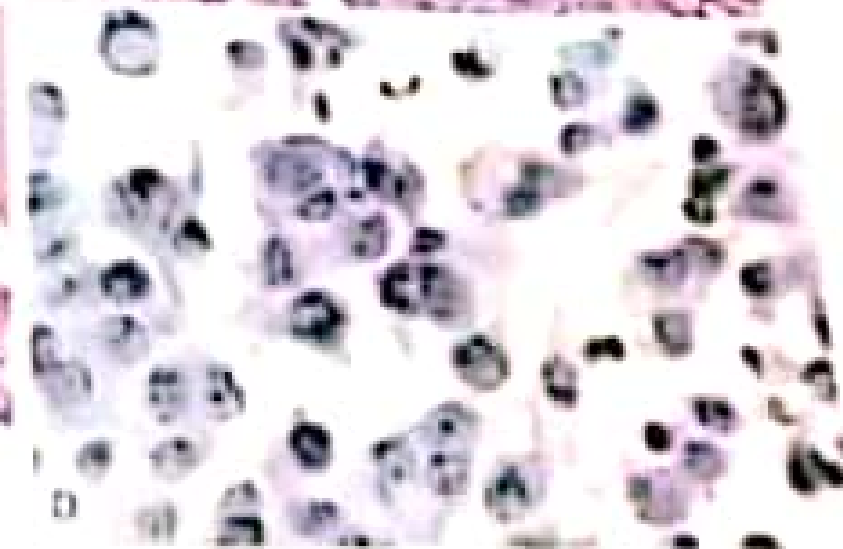
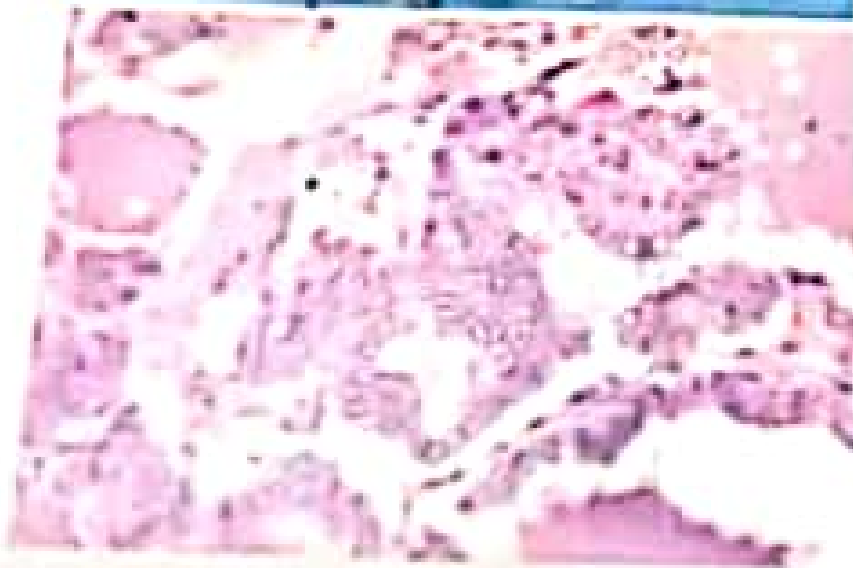
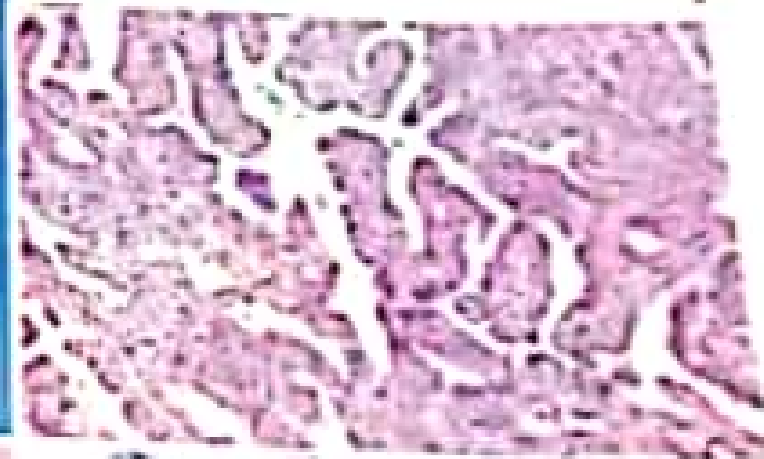
Extraadrenal.

10%.

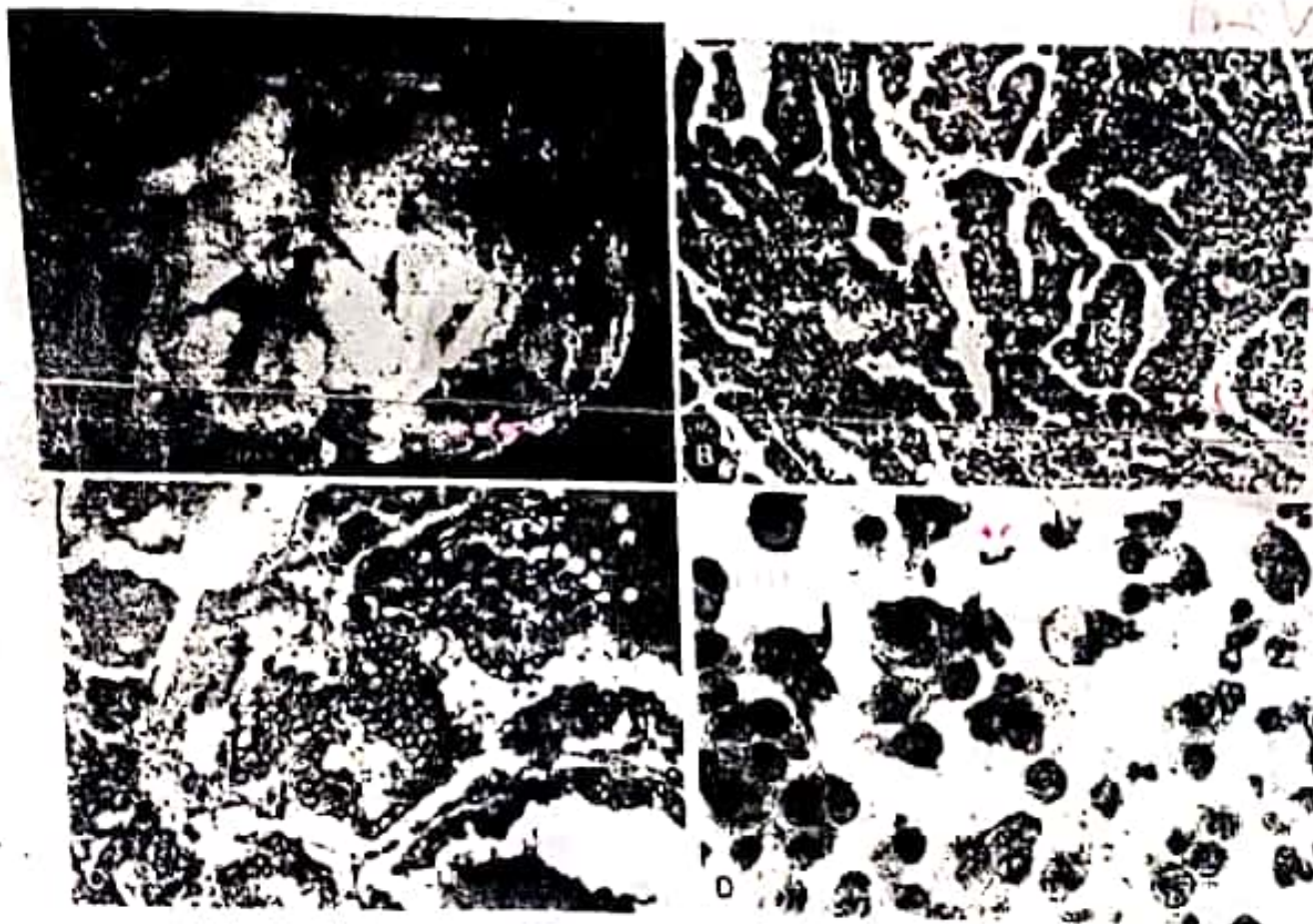
bilateral.

A young female presented with a solitary nodule in the left lobe of thyroid. She has a history of ionizing radiation exposure to the head and neck area. The gross and microscopic features of surgical specimen specifically their nuclear features are shown below

• 20x
100x
50x



A young female presented with a solitary nodule in the left lobe of thyroid. She has a history of ionizing radiation exposure to the head and neck area. The gross and microscopic features of surgical specimen specifically their nuclear features are shown below



1. What is the diagnosis? *Papillary carcinoma*
2. Enlist its variants? *1096P follicular variant, tall cell variant, diffuse sclerosing variant.*
3. WHAT IS MEDULLARY CA? *Classify thyroid tumors.*
4. WHAT DO YOU KNOW ABOUT MEN SYNDROME AND ITS ASSOCIATED DISORDERS? *1136P*

20

~~10~~)

a) - Papillary carcinoma

b) - ~~Struma~~ • Follicular Variant -

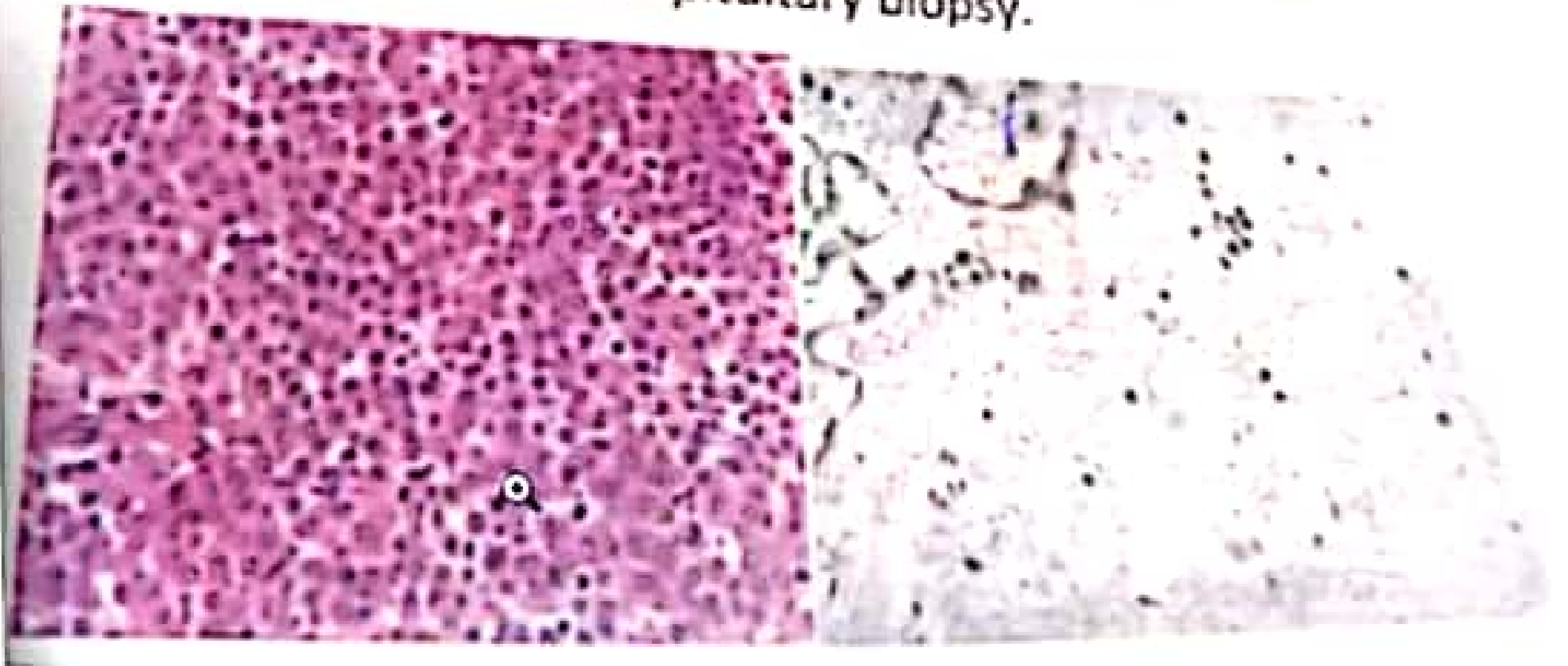
• Tall cell variant -

• Diffuse sclerosing -

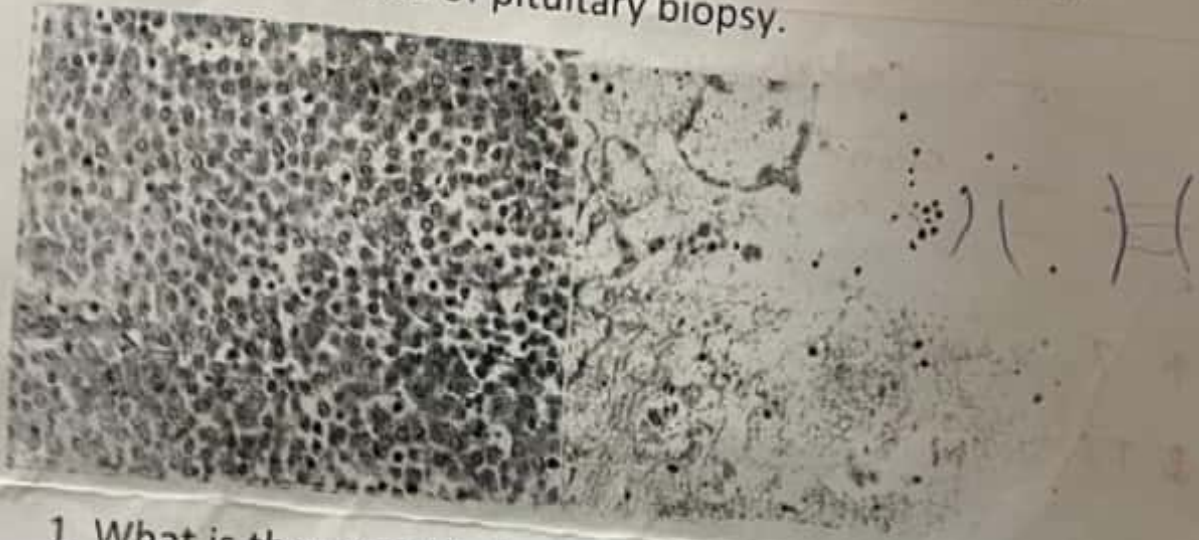
• Papillary microcarcinoma.

c) Neuroendocrine Neoplasm derived
from parafollicular or C cell -
caused by RET gene.

A 20 years old female with amenorrhea, galactorrhea, loss of libido and infertility is under diagnostic workup. She has also started to develop visual field abnormalities and elevated intracranial pressure. Her lab investigations show elevated prolactin levels. Below is given microscopic and electron microscopic features of pituitary biopsy.



A 20 years old female with amenorrhea, galactorrhea, loss of libido and infertility is under diagnostic workup. She has also started to develop visual field abnormalities and elevated intracranial pressure. Her lab investigations show elevated prolactin levels. Below is given microscopic and electron microscopic features of pituitary biopsy.

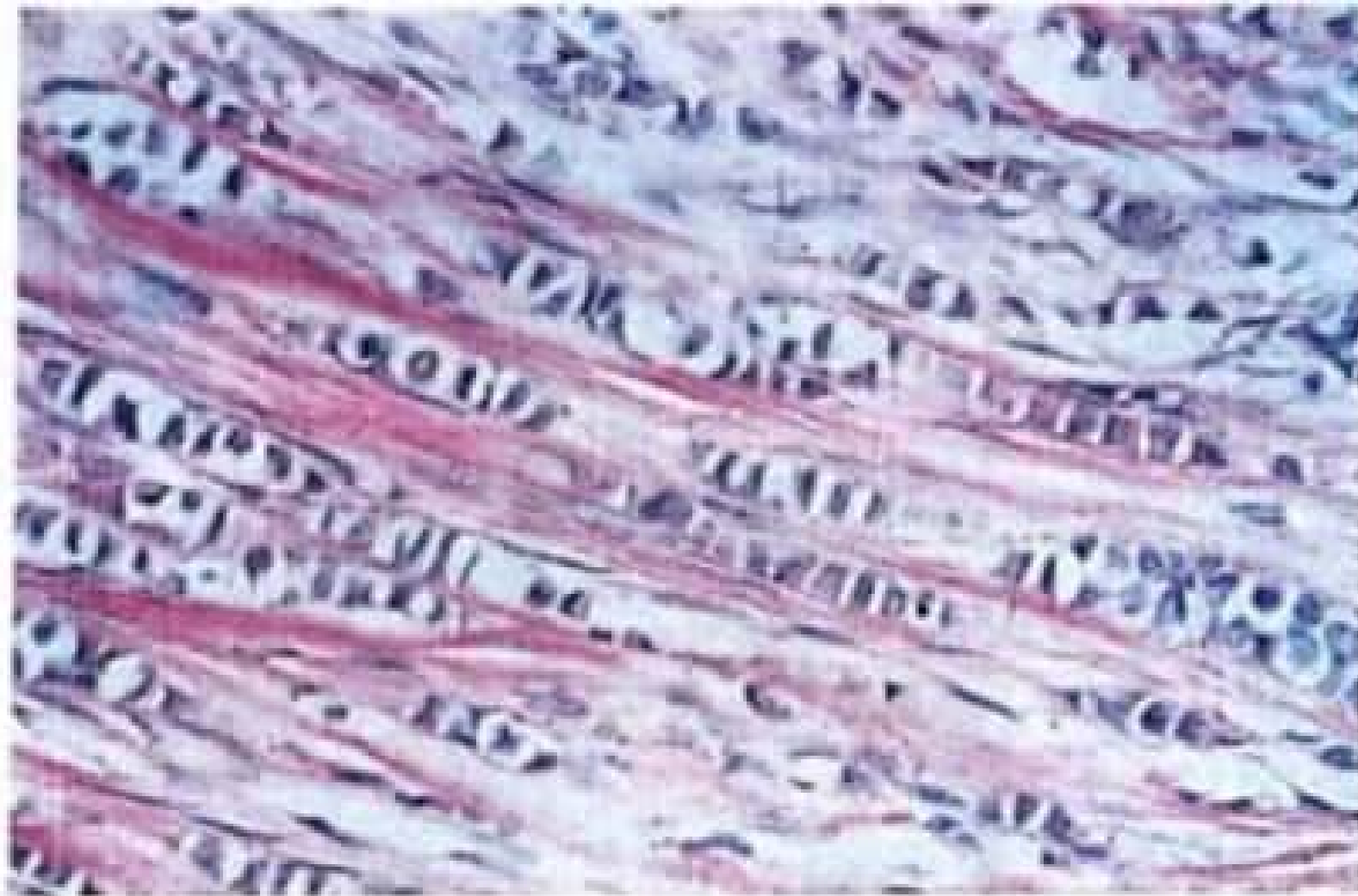


1. What is the most likely diagnosis? *Lactotroph adenoma 1078*
2. How would u differentiate this entity from non-neoplastic anterior pituitary parenchyma?

cellular monomorphism and the ~~absence~~ absence of reticulin network distinguish pituitary adenoma from non neoplastic.

a). Postulate Adenoma

b). cellular monomorphism and absence
of reticular network



A 45 years old female presented with bilateral breast lumps. The following features are seen in the biopsy of this patient.

1. What is the diagnosis? 2
2. What is the name of this pattern or this arrangement of cells? 1
3. What is the name of the gene whose expression is lost in this tumor? 1

4 - name the drug used to treat this patient (1)

24)

- a) - Invasiver Lobular carcinoma -
- b) - Indien Siegel pattern -
- c) - CDH-1 (E-cadherin)
- d) - Dosis: Tamoxifen



76

Celiac disease

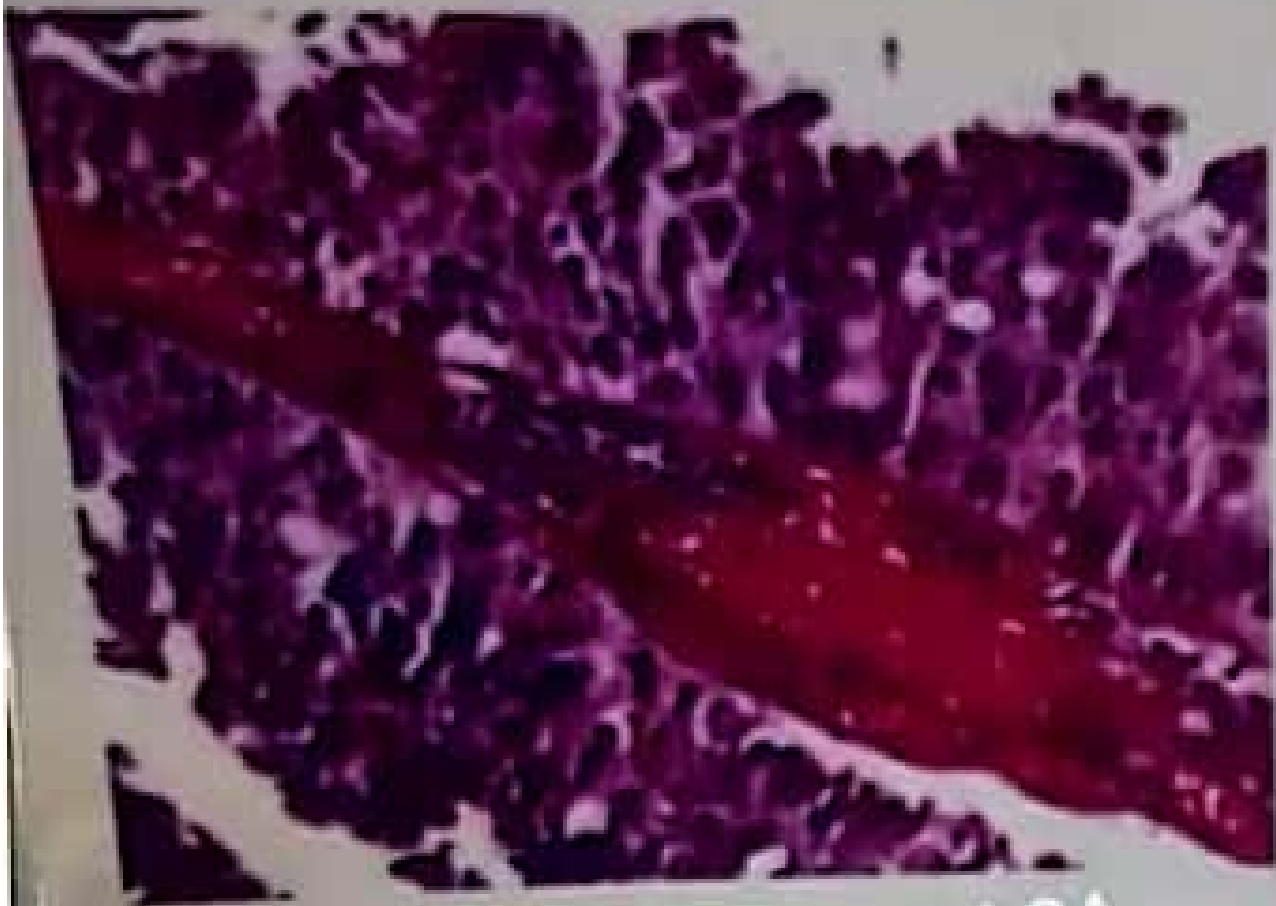
A concerned mother brings her 4 yr old daughter to the doctor with the complaint of bloating, diarrhoea, failure to thrive and weight loss. On lab findings she was found to be anemic and antibodies in the serum were detected. The doctor advised small gut biopsy which showed the above picture.

- A) Identify the disease. (01)
- B) Identify the histological features shown in the photomicrograph. (02)
- C) What would be the treatment? (01)

a). Celiac Disease

- b).
- Crypts \rightarrow elongation
 - Villous flattening -
 - Intra-epithelial lymphocytes

c). Gluten free diet -



papillary urothelial CA

You are shown a urinary bladder growths in above two pictures.

Q-1 What is the diagnosis ?

Q-2 classification of Urinary bladder carcinoma ?

27).

a). Papillary urothelial carcinoma

b).
① Urothelial Papilloma

② Urothelial neoplasm of low malignant potential

③ Papillary Urothelial carcinoma grade 1

④ " " " " " 2

⑤ " " " " " 3

A 50 year old female presented with lump left breast. The lump was hard and fixed to the surrounding structures. Overlying nipple involved retraction.



Q. What is the diagnosis?

(1) DCIS

Q. What are its other types?

(2) LCIS

Q. What are the histological features of DCIS?

28)

a) Ductal carcinoma in situ (Comedo)

b) Comedo
non-comedo

c) Findings

- ① Linear and branching calcifications
- ② Absence of central necrosis
- ③ High grade nuclei

Edit



7. How are leiomyomas distinguished from leiomyosarcomas and what is the importance of mitotic count.

S and

Scanned with CamScanner

STATION:

A 24-year-old man is awakened at night because of severe lower abdominal pain that radiates to the groin. The pain is very intense and comes in waves. The next morning, he notices blood in his urine. He has no underlying illnesses and has been healthy all his life. On physical examination, he is afebrile and has a blood pressure of 110/70 mm Hg. Urinalysis shows a pH of 7; specific gravity of 1.020; and no protein, glucose, ketones, or nitrite. The patient is advised to drink more water.



1. What is the most likely diagnosis?
2. Enumerate different types of renal stones.

1. urolithiasis (renal calculi/stones)

2. calcium oxalate and phosphate, struvite (magnesium ammonium phosphate), uric acid stones, cystine, others

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Tools



Mobile View



Share



PDF to DOC

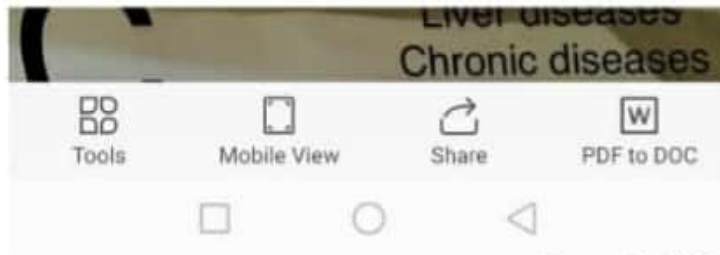


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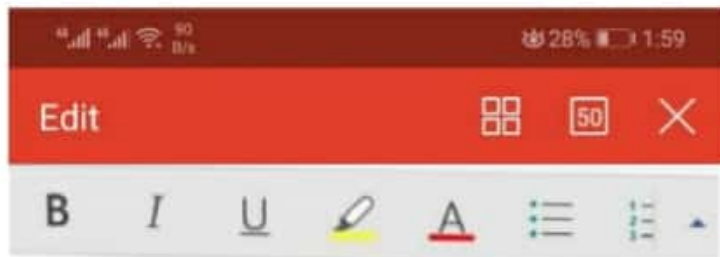
a) Urolithiasis

b)

- Calcium oxalate and Phosphate
- Uric Acid Stone
- Cysteine
- Struvite



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ANMC
OSPE
Female genital tract

A 35 years old female presented with spontaneous miscarriage. Beta HCG level is found to be markedly raised. Microscopic examination reveals hydropically enlarged villi with circumferential trophoblastic proliferation. No fetal parts are seen.

GROSS EXAMINATION:- Grape-like clusters.



- Q-1 What is the diagnosis. 1
- Q-2 What are its types 2
- Q-3 What malignancy is associated with raised Beta HCG levels.

1. complete hyatidiform mole
2. complete mole, partial mole, invasive mole
3. choriocarcinoma

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Scanned with CamScanner

30) a) mole

b) type → complete, partial, invasive

c) Choriocarcinoma



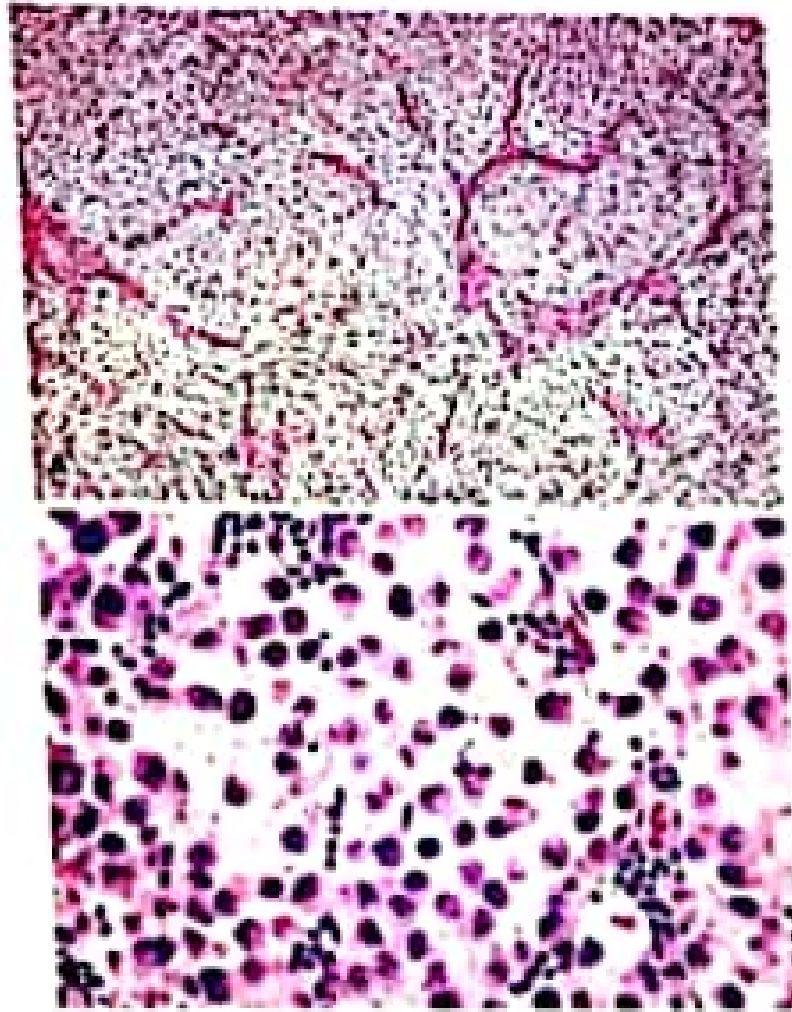
This is photomicrograph of a 19 year old boy who underwent colectomy. The mucosa is studded with more than hundred polyps, one of them turns out to be an adenomatous polyps.

- A) What is the diagnosis? (02)
- B) Which gene is involved in its pathology? (01)
- C) What malignancy could it give rise to (01)

29) a) FAP

b) APC

c) colorectal ^{adeno} carcinoma



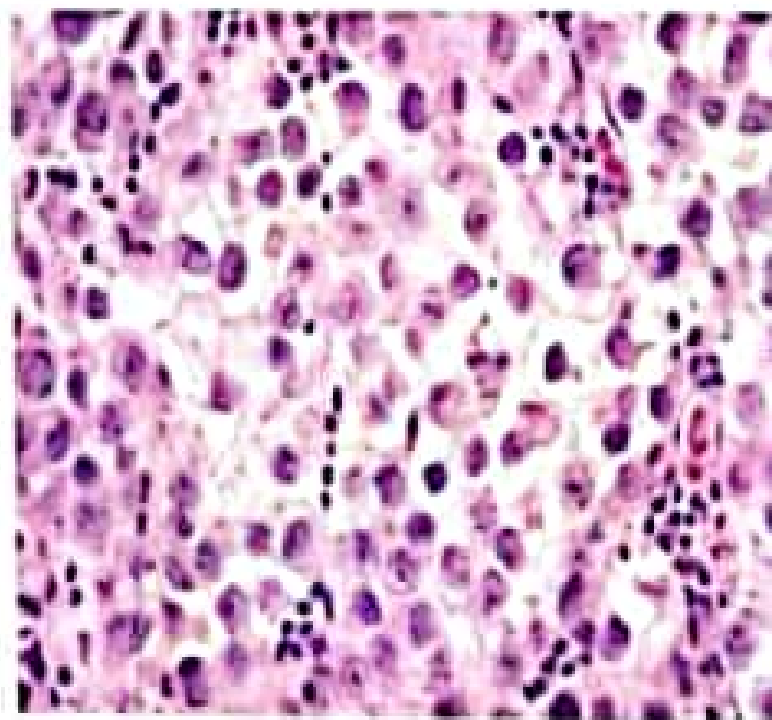
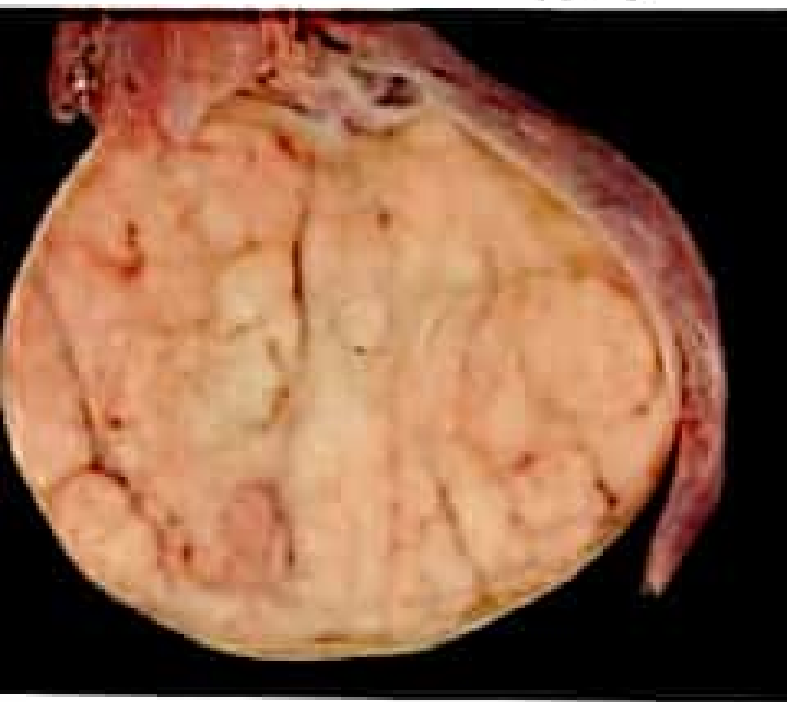
You are shown a photomicrograph of a testicular tumour.

Q-1 What is the diagnosis ?

Q-2 Write down two major components of this tumour. 1

Q-3 Give Major classification of testicular tumours ?

SGD-1



A 30-year-old man has enlargement of the left testis with a palpable left inguinal lymph node. An ultrasound reveals a 4 cm solid mass within the body of the left testis. Laboratory findings included a serum beta-HCG of 5 IU/L and alpha-fetoprotein of 2 ng / mL. The left testis is removed and with on sectioning reveals a firm, lobulated light tan mass without hemorrhage or necrosis. (as shown in the figure.)

A) - What is most likely diagnosis? seminoma

B) - What are microscopic features of this lesion?

C) - What are tumor markers for this lesion?

**OCT 3/4, NANOG,
PLAP, KIT,
B-HCG (15%cases)**

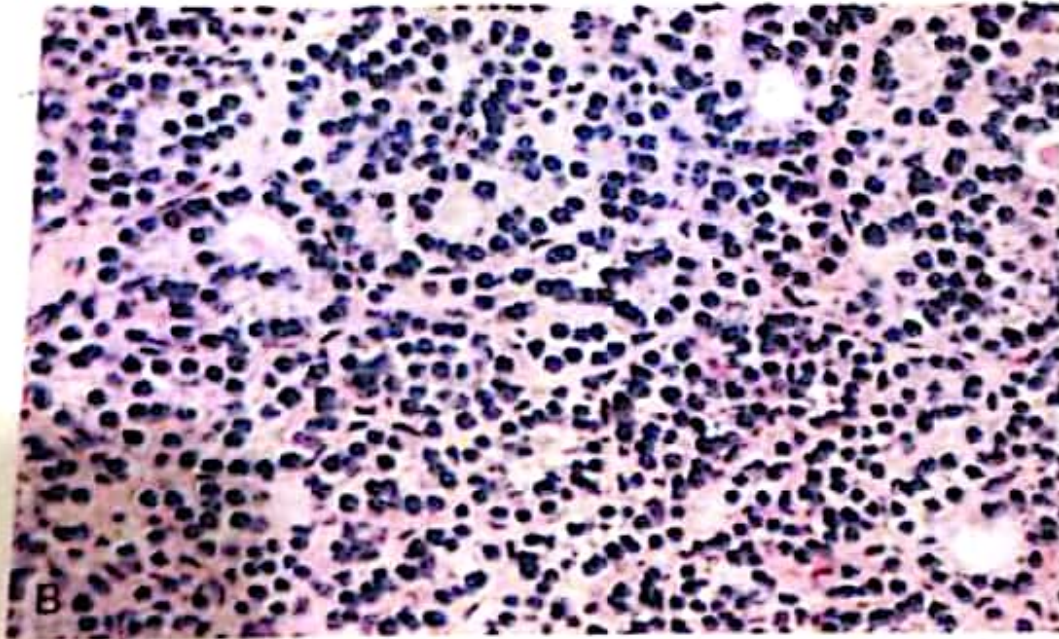
33

a) seminoma

b) classic
Anaplastic
Spermatocytic

c) OCT3/4, KIT, PLAP, LDH

A middle aged female with increased PTH and hypercalcemia shows a well circumscribed and encapsulated nodule in one of the parathyroid gland underwent parathyroid biopsy showing uniform appearing polygonal chief cells with centrally placed nuclei. No mitosis and no invasion is identified. The glands outside the *Lesion* are normal in size..



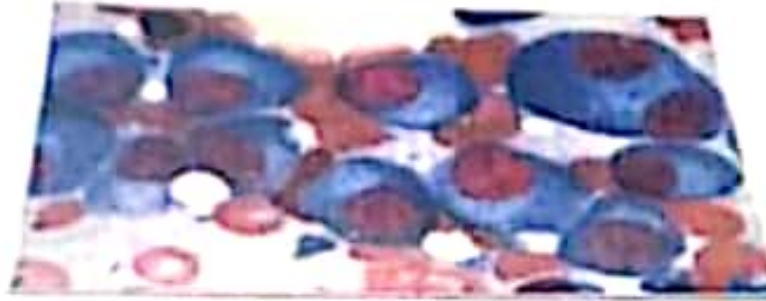
1. What are the three most common causes of primary hyperparathyroidism?
2. In this scenario what do u think is the cause?

31) a) Parathyroid, Hyperplasia, Carcinoma
Adenoma

b) Parathyroid adenoma

b- roulex formation
 Russel bodies
 Flame cells

DEPARTMENT OF PATHOLOGY, ANNA, LAMPING
 CASE TEST NO. 08/11/2018
 STATION 7



A 50 year old female presented with high grade fever, weight loss and bone pain.
 Radiological examination revealed sharply punched out lesions in skull.
 Electrophoresis revealed M -band.

- What is the diagnosis? (0.5)
- What are the morphological features? (02)
- What is bence jones protein? (01)

Multiple myeloma

3

a
 c) monoclonal globin proteins,
 Present in urine or blood

1139

a) multiple myeloma

b) ① Inlets of Plasma cell

① Golgi apparatus in Plasma cell

① eccentric nuclei

① Punched out defect on X-Ray

① Roulex formation

c)

Abnormal Protein in urine of
multiple myeloma patient

An adult male presents with enlarged hands and feet, coarsened enlarged facial features, coarse, oily, thickened skin, Excessive sweating and body odor. His growth hormone levels and IGF-1 levels are raised.



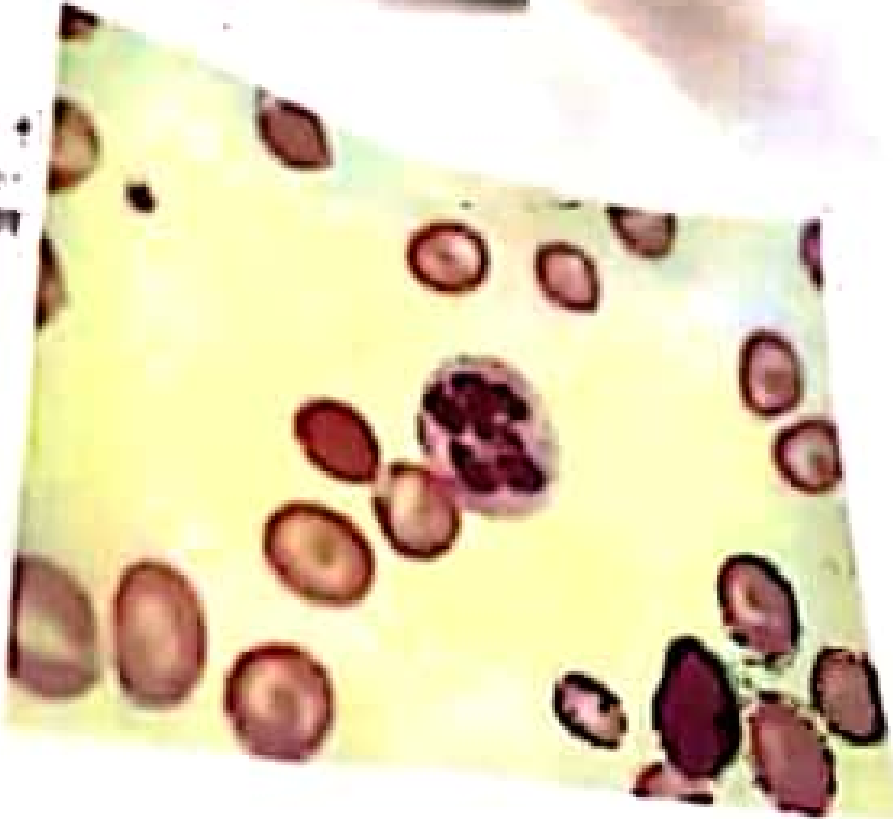
1. What is the most likely diagnosis? 1079
2. What is the underlying cause. 1079

50

a) acromegaly

b)

excess of growth hormone (pituitary adenoma)



A 40 years old male comes to the OPD with complaint of numbness and tingling sensation in the hands. He has been experiencing the weakness and numbness for 3 months.

35)

a) megaloblastic Anemia

b) Folic Acid deficiency
Vit. B₁₂ deficiency

c) Peripheral Picture

⊙ hypersegmented neutrophil

⊙ macro-ovalocyte

d) investigation

↑ MCV , MCHC

↓ Reticulocyte

↓ Hb

DEPARTMENT OF PATHOLOGY, BANGALORE
1999 1998 1997 1996 1995 1994 1993 1992 1991 1990 1989 1988 1987 1986 1985 1984 1983 1982 1981 1980 1979 1978 1977 1976 1975 1974 1973 1972 1971 1970 1969 1968 1967 1966 1965 1964 1963 1962 1961 1960 1959 1958 1957 1956 1955 1954 1953 1952 1951 1950 1949 1948 1947 1946 1945 1944 1943 1942 1941 1940 1939 1938 1937 1936 1935 1934 1933 1932 1931 1930 1929 1928 1927 1926 1925 1924 1923 1922 1921 1920 1919 1918 1917 1916 1915 1914 1913 1912 1911 1910 1909 1908 1907 1906 1905 1904 1903 1902 1901 1900

STATION 4



- Identify the lesion shown in this picture of gross specimen of lung. (01)
- Define the most likely diagnosis in patients with pink puffy appearance? (1)
- What is measured through spirometry in these patients? (01)

38

a) Bullous Emphysema

b) Emphysema

c) FCV Normal

FEV_1 $\downarrow\downarrow$

FEV_1/FVC ratio \downarrow

39

hemoglobin) INT, eTnI,

Q. A 65 years old male complaining of chest pain is brought to emergency ward by ambulance. The pain began 3 hours ago. He describes pain as retrosternal, pressure like and radiating to left arm and jaw. He has past medical history of hypertension, cigarette smoking 2000 cigs. over a 30 year period. BP 160/100 mm Hg. HR 98 beats/min respiratory rate 18/min.

- a) What is your provisional diagnosis? 10
- b) What lab investigations should be done to confirm diagnosis? 15
- c) Name four modifiable and non-modifiable risk factors for above condition? 15

3. genetics, male gender,

37

a) $M\bar{I}$

b)

⊙ $CK-MB$ ~~⊙~~

⊙ $CTnT$

⊙ $CTnI$

c)

Modifiable , non-modifiable factors



1. squamous cell carcinoma
2. TP53, RB, CDKN2A, FGFR1

- 2-a. Smoking is mostly related with which Lung Carcinoma? (01)
- b. Which genes undergo mutations in the pathology seen in this gross specimen of lung? (1.5)
- c. Give histological features of this malignant lung tumor. (1.5)

3. gray white firm mass with frequent cavitation

keratin pearls and intracellular bridges, eosinophilic dense cytoplasm

ii

a) Squamous cell carcinoma

b) TP53, RB, CDKN2A, FGFR2

- c)
- ⊙ Nest of malignant cell
 - ⊙ Keratin Pearl
 - ⊙ Intra-cellular bridges

Rapidly progressive glomerulonephritis

A 38yr old female pt. of SLE develops progressive renal failure with high level BUN & creatinine, renal biopsy shows distinctive crescent formation.



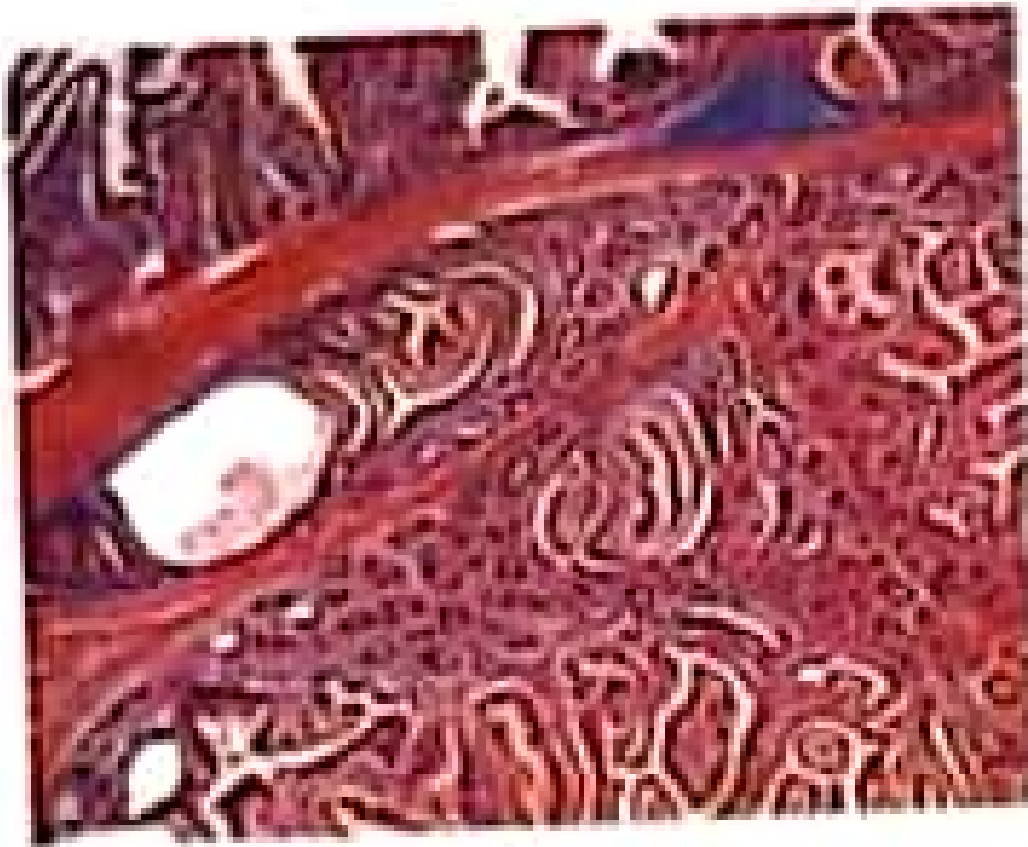
Figure 28-14. Rapidly progressive glomerulonephritis. There is crescentic glomerulonephritis with a cellular crescent. The left shows hyperplastic and necrotic epithelial cells.

1. What is the most likely diagnosis?
2. What are its different types?
3. What is the syndrome related to this disease associated with hemorrhage?

a) RPGN

b) Anti-GBM Antibody (Type I)
immune complex (Type II)
Pawci immune (Type III)

c) Good Pasture Syndrome



This is the histological picture of a 10 years old boy with multiple hamartomatous polyps and mucocutaneous pigmentation

- A) What is the diagnosis? (01)**
- B) Which gene is involved most commonly (01)**
- C) Which two cancers can arise in the back ground of this pathology? (01)**

a)

Peviz Jegher Syndrome

b)

STK 11

c)

- Ⓐ Sex-cord Tumor of Testis
- Ⓑ Stomach adenocarcinoma
- Ⓒ Colon "

A male patient with history of type 1 diabetes mellitus is suffering from sorethroat for the last few days and presents to emergency department with vomiting, deep and fast breathing, fruity scented breath and mental confusion progressing to coma. His glucose level is 400mg/dl, sodium bicarbonate is less than 15 mEq/L, serum osmolality is 300 mOsm/L and blood pH is less than 7.30.

1. What are the most common acute metabolic complications of diabetes?
2. In this scenario what do u think is the cause for this metabolic complication in type 1 diabetes?

Q1

- a) DKA (Type 1)
 Severe Hypoglycemia
 HHS (Type 2)] (a)

B

In un-controlled DM, an illness or infection can trigger HHS & glycosuria leads to osmotic diuresis with loss of water, sodium potassium and other electrolytes.

A 48-year-old woman who presented with complaints of severe vomiting and severe abdominal pain radiating to back and shoulder. She gave a history of alcohol intake. Abdominal examination revealed a distended abdomen that is very tender on palpation. Liver's edge and Lush's sign are positive. There are dusky white patches on the peritoneal cavity and membranes (stomach and/or inflammation), edema, hemorrhage, fat necrosis and other vessels.



1. Based on the above picture what do you think is the diagnosis? (2)
2. What are the five most important lab tests to support your diagnosis? (5)

45

a)

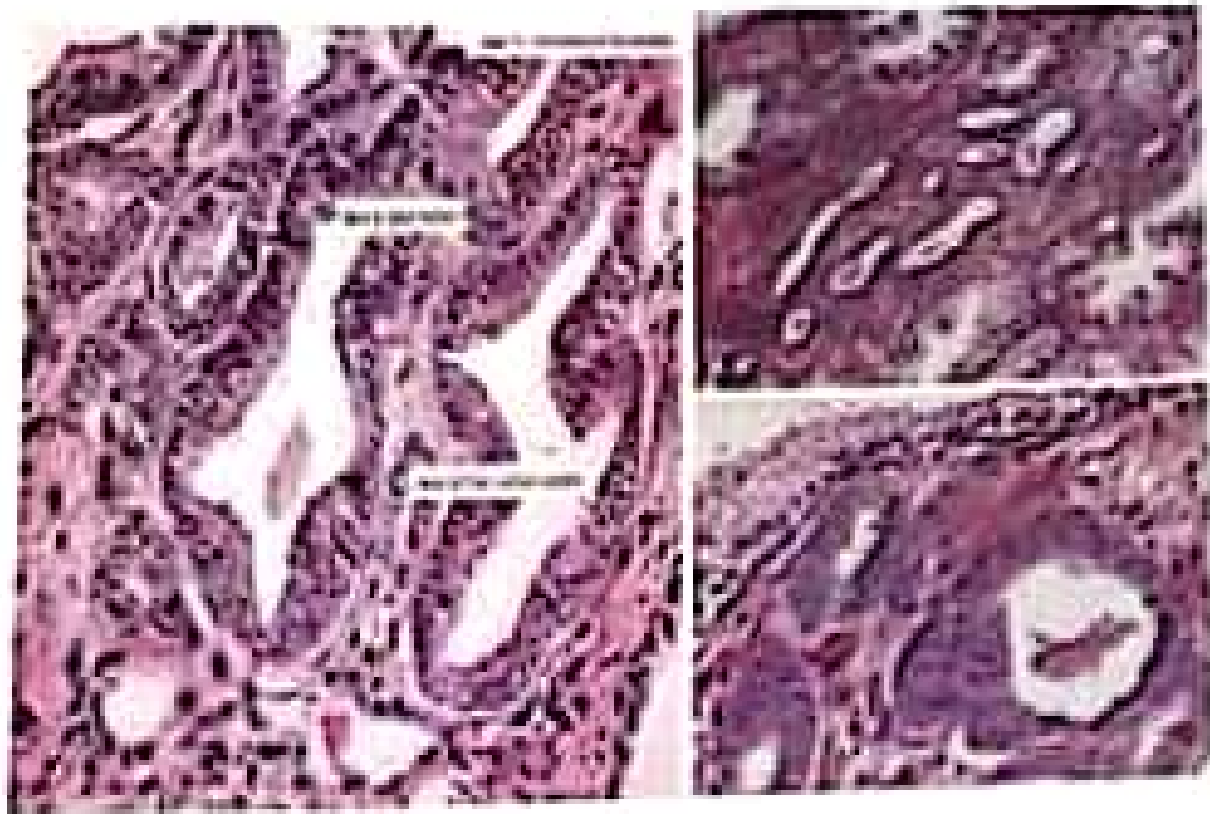
Acute

Pancreatitis

b)

Lipase

Amylase



A 70-year-old healthy man has a firm nodule palpable in the prostate via digital rectal examination. Prostate biopsies are performed and on microscopic examination show small, crowded glands containing cells with prominent nucleoli within the nuclei. (as shown in above image)

- What is most likely diagnosis?
- If the serum PSA is 7 what is its significance?
- Name the grading system for this lesion

43

Prostatic adenocarcinoma

b)

Less Than 4 (Not specific)

Greater Than 6 indicative of

Prostatic adenocarcinoma

c)

Gleason Scoring Grading System

A 20 years old female comes to surgical OPD with complaint of left breast lump. On examination the lump is firm, non-tender, freely mobile and measures 2×2cm. The nipple and the overlying skin is normal with no gross changes.

She underwent surgical excision of the lump and the gross and microscopic images are given below



- 1) What is the diagnosis?
- 2) What are its two types ?
- 3) Name another stromal neoplasm commonly arising in breast

44

Fibro-adenoma

b) intra-canalicular

Peri-canalicular

c) Phylloides Tumors

Station 8:

A 45 yrs. old female presented with yellowish discoloration of sclera. She had no history of any transfusion or contact with hepatitis. She has intense itching on legs since last 1yr.

His labs are

Bilirubin	20mg/dl
ALT	105U/L
AST	130U/L
ALP	1989U/L
Total protein	8.9g/l
Albumin	2.4g/l
Gamma GT	230 lu/l

1. What is the diagnosis? 1
2. What biochemical findings suggest the diagnosis? 1
3. Name enzymatic markers of hepatocyte injury? 1

47

a)

Obstructive Jaundice

b)

Serum Bilirubin ↑

ALP ↑

Gamma

Glutamy Transferase ↑

c)

ALT

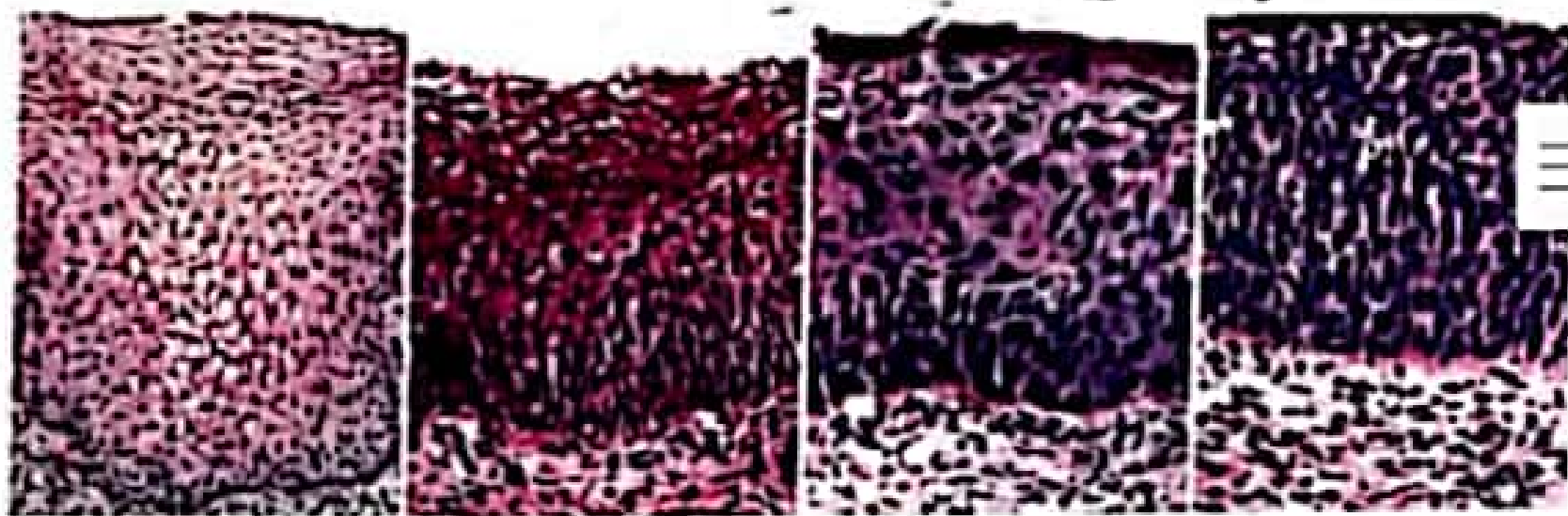
AST

LDH

Ospe Station

Female Genital System

A 35 years old sexually active lady developed a cervical growth. Pap Smear revealed atypical hyperchromatic nuclei. Biopsy is shown here and reveals spectrum of a single lesion



Q-1 Name the 3 types of lesions shown here .. 2

Q-2 What type of carcinoma can develop in this case ?

Q-3 Name the viruses that can cause this lesion !

48

a) CIN I, II, III

~~scribble~~

b)

Squamous carcinoma (Cervical carcinoma)

3)

HPV 16, 18

Respiratory system

A 55 years old chronic smoker developed cough, weight loss of 1 kg in last few months. Lung was removed and revealed a mass involving the major bronchi.

Sputum analysis was done before surgery aswell, shown below.



Q-1 what is the diagnosis. 1

Q-2 what are its major types 2

Q-3 Name one paraneoplastic syndrome associated with this .1

50)

Bronchogenic carcinomas

b) ① Small

② Non-small

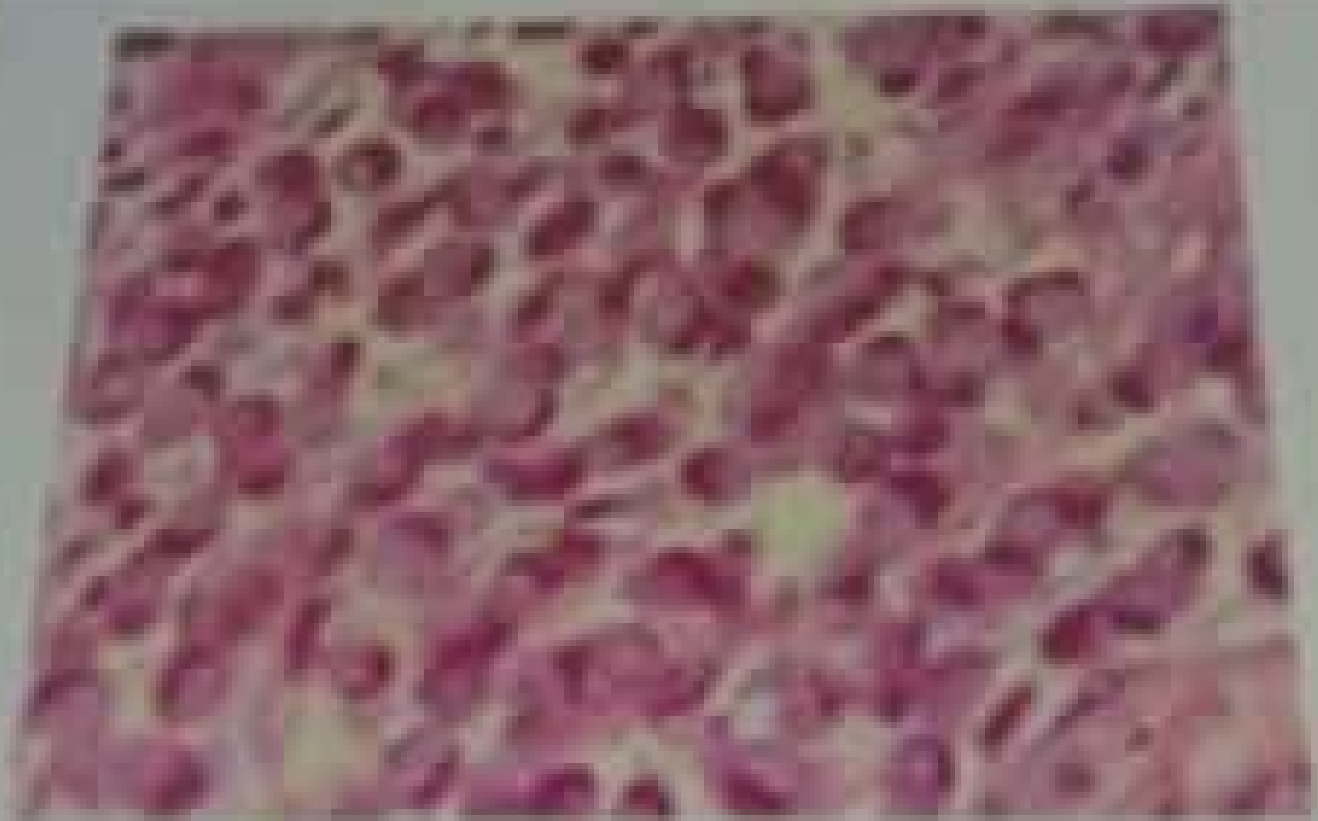
squamous, adenocarcinoma, adenoid squamous

c)

Cushing syndrome

carcinoid - 4

SIADH



This is the photomicrograph of stomach biopsy of an elderly male with weight loss and gradual onset of epigastric pain.

- a) What is the diagnosis? (20)
- b) What are the two important types of stomach carcinoma? (20)
- c) What is the name given to the gross appearance of stomach in this pathology? (20)

a) signet ring cell adenocarcinoma of stomach

b) diffuse and intestinal gastric

c) linitis plastica

144

21

a) Signet ring cell ^{adeno} carcinoma

b) Diffuse
intestinal

c) Linitis Plastica

Barrett esophagus



This is the endoscopic picture of esophagus of a middle aged male with history of chronic reflux

- A) What is the diagnosis? (02)
- B) Which malignancy could it give rise to? (01)
- C) What is the most important risk factor? (01)

52

Barrett esophagus

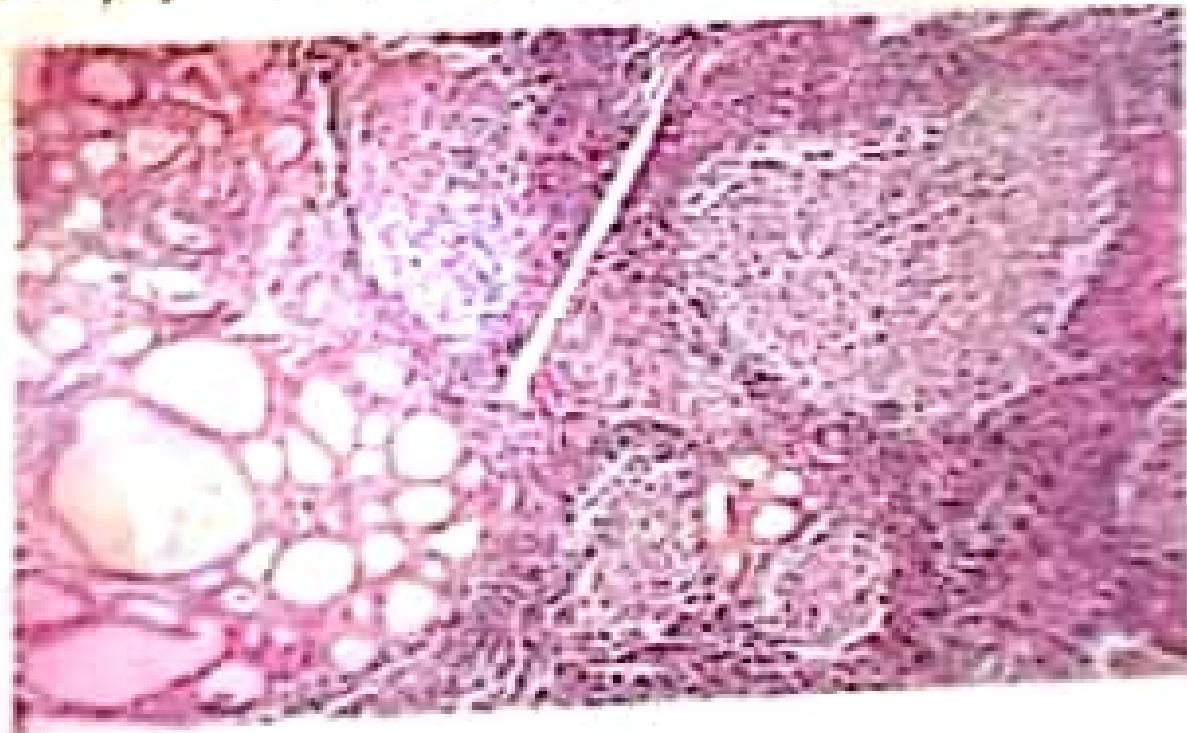
b)

adenocarcinoma

c)

GERD

A middle aged female with painless symmetric enlargement of thyroid gland, lab investigations show hypothyroidism and thyroid biopsy show intense mononuclear infiltration.



1. What is the diagnosis?
2. Give a brief pathogenesis of the condition.

54

a) Hashimoto's Thyroiditis

b)

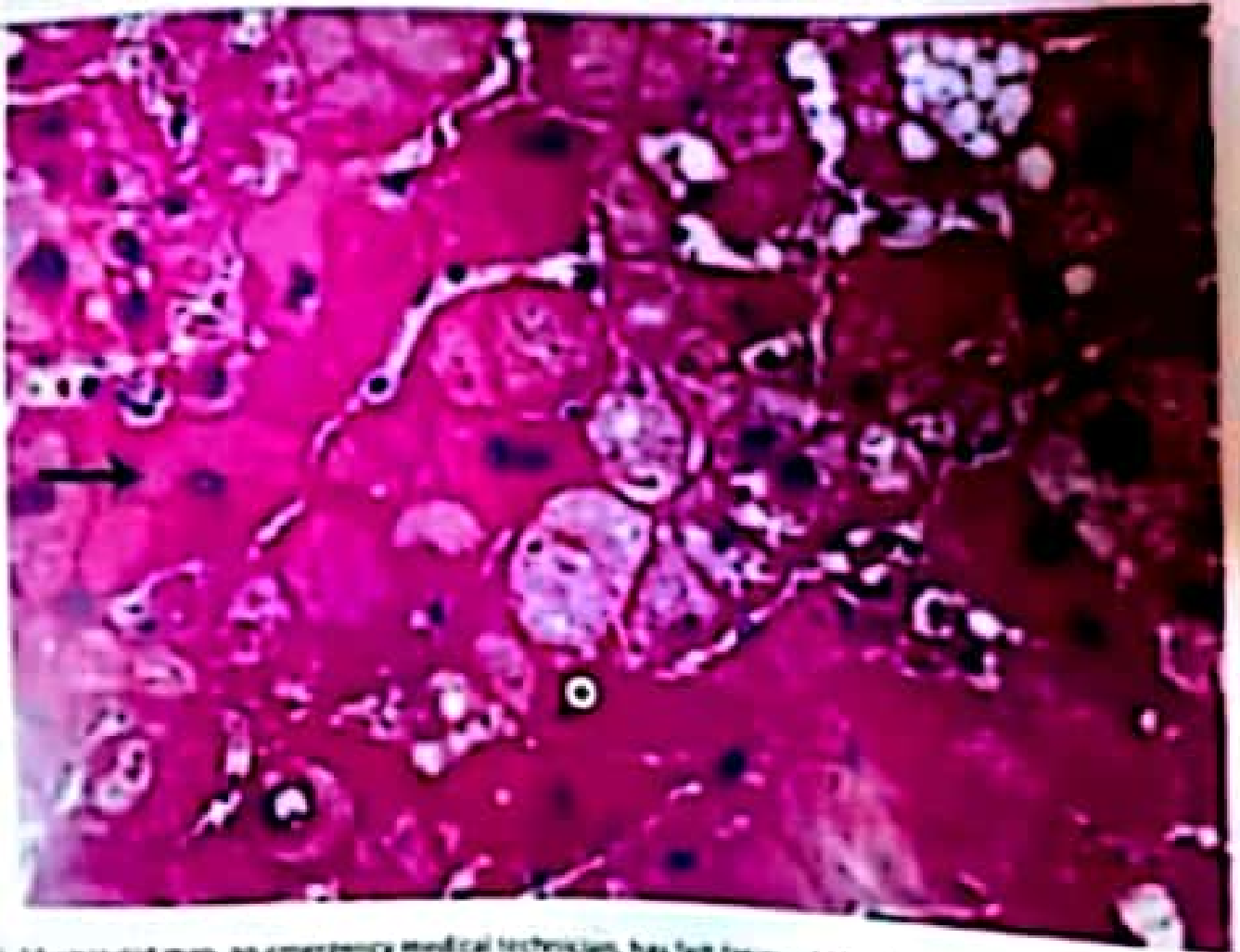
Cytotoxic

CD8 Cell mediated

Cytokine mediated

Anti-body mediated Cytotoxicity

FR



A 44-year-old man, an emergency medical technician, has felt fatigued for the past 4 months. He experienced an episode of jaundice 10 years ago, but that resolved and he has been healthy since. On physical examination there are no remarkable findings. Laboratory studies show his hemoglobin is 14 g/dL and serum electrolytes normal, but he has a total protein of 5.4 g/dL, albumin 2.9 g/dL, ALT 112 U/L and AST 113 U/L with total bilirubin 1.8 mg/dL and direct bilirubin 0.8 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the portal tract. There is focal ballooning degeneration of hepatocytes & characteristic ground glass appearance.

1. What is your diagnosis? 1
2. What is the pathogenesis? 1

56

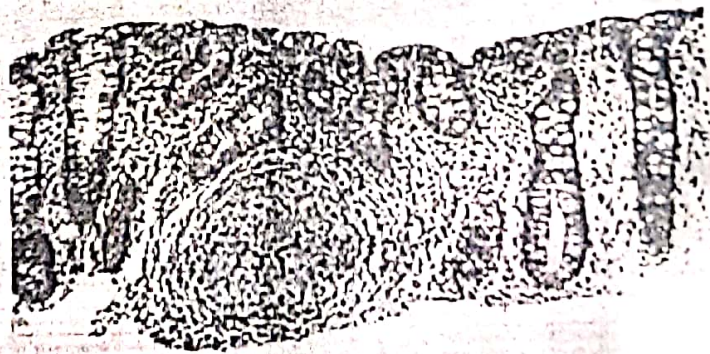
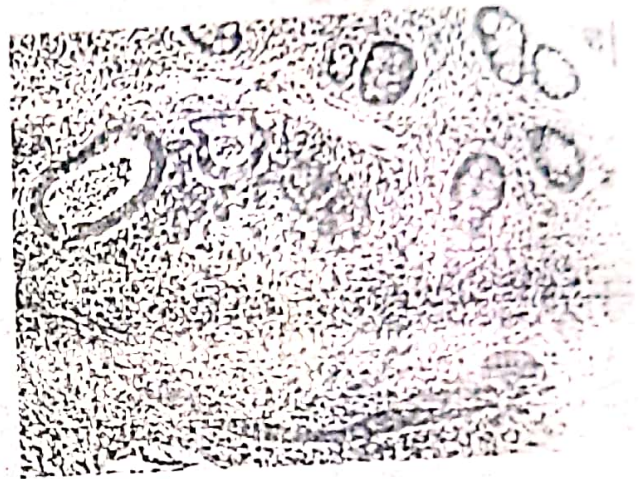
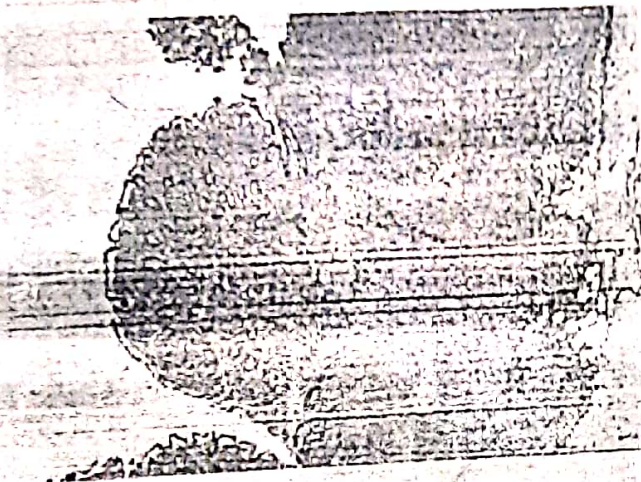
a) Hepatitis B

b) Inflammation at the interface
b/w liver parenchyma & portal tract
stroma

- c).
- Blood transfusions.
 - Used syringes.
 - Sexual contacts
 - Mother to fetus.

SGD Crohn's Disease

A 35 years old diabetic female had complaints of weight loss and crampy lower left abdominal pain that is relieved following defecation. She had altered bowel habits. Now presented in the emergency because of acute abdominal pain, tense and tender abdomen. Laparotomy was planned. On opening the abdomen adhesions and fluid in the abdomen was noted. Surgical exploration revealed involvement of right side of colon with ulcers and intervening areas of unremarkable gut. Biopsy from the affected area shows the following morphology



- What is the most likely diagnosis? **Crohn disease**
 - Which factors contribute towards pathogenesis of this disease? **NBAIDs, infection, antibiotics, diet, stress, smoking**
 - What complications can occur?
 - Enumerate the clues in the scenario and biopsy findings which favour this disease process? **(non caseating granuloma)**
- CAPE S

(70)

(A) Diagnoser Chron's
~~Chron's~~ disease

(B) Factors :-

- infection (H. pylori)
- NSAIDS
- Stress
- Smoking
- Alcohol

(C) complications :-

- Fibrosing stricture.
- Fistula.
- Perforation.
-

(D) Clues in seehavior

- Non caseating granuloma.
- Transmural inflammation.

71

(A) Rheumatic Fever

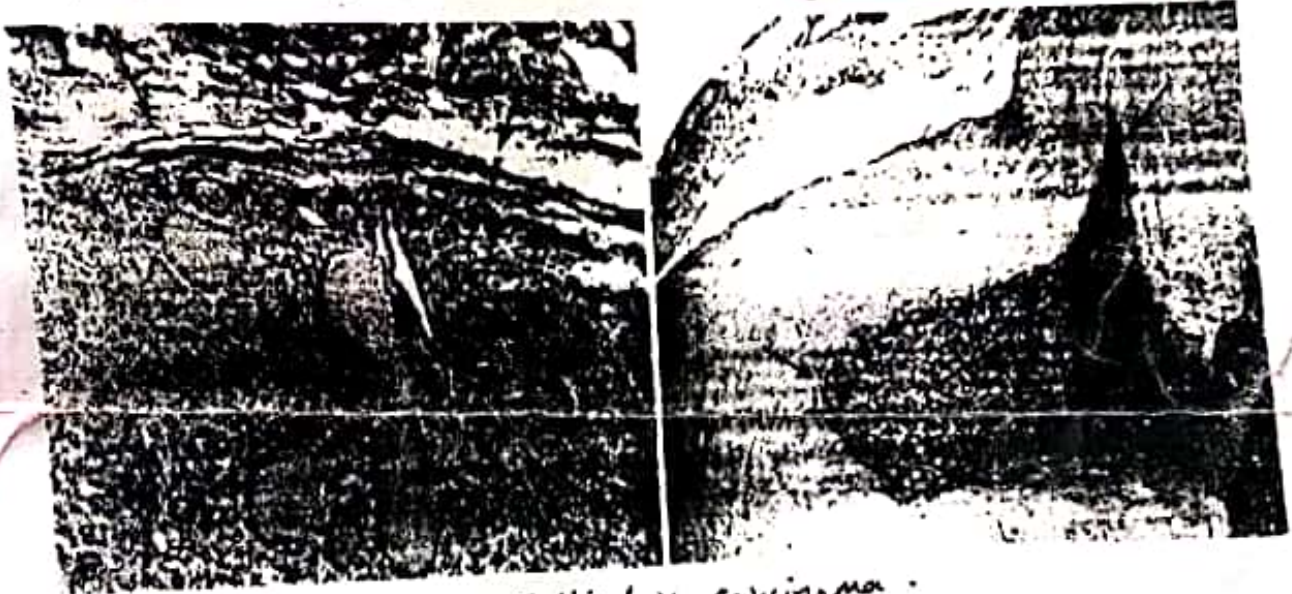
(B) Type II hypersensitivity reaction.

- (C) - Aschoff body
- Anitchkow cells.
- Pancarditis
- ~~verrucae~~ verrucae
- Macular plaques.

(D) John's criteria -

A 40 years old female presents with a cold nodule in the right lobe of thyroid gland. She is resident of an area where dietary iodine deficiency is prevalent. Surgical excision is carried out and the histological sections reveal follicles containing colloid lined by cuboidal cells which are fairly uniform. Histologic sampling of tumor-capsule-thyroid interface reveals vascular invasion.

0718 - 145 page



1. What is the diagnosis? *Follicular carcinoma.*
 2. How will you differentiate between a follicular adenoma and carcinoma? 1098
 3. What is oxyphil or Hurthle cell Change? 1098
- 3) *cells with granular and eosinophilic cytoplasm.*

2)

<i>Follicular adenoma</i>	<i>F. carcinoma</i>
<i>No capsule and non invasive</i>	<i>Have capsule and invasive.</i>

5
115

Follicular carcinomas

b) capsular and vascular invasion

c) cells with granular and eosinophilic cytoplasm

5-Rheumatic fever

A 12 year old girl presented to medical opd with a history of pharyngitis two weeks ago now she complains of fever and that her specific joint becomes swollen and painful and then it resolves spontaneously and then another joint is involved in a similar manner. On examination she has pericardial frictional rub and arrhythmia.

- a- What is the most probable diagnosis?
- b- What type of hypersensitivity reaction is involved?
- c- What is pathognomic morphologic finding in heart?
- e- Which criteria is used for its diagnosis?

7 (A) Rheumatic Fever

(B) Type II hypersensitivity reaction.

- (C) - Aschoff body
- Anitchkow cells.
- Pancarditis
- ~~verrucae~~ verrucae
- Macaulam plaques.

(D) John's criteria -

H. Pylori Gastritis



This is the microscopic high power view of antral biopsy of a 35 years old male with history of heartburn and dyspepsia. A suspicion of gastritis is made.

- A) Interpret the finding in this photomicrograph (02)
- B) What is the final diagnosis (01)
- C) Which special stain is used in the above photomicrograph (01)

58

~~●~~ H-Pylori Gastritis

~~●~~ (B)

a)

~~●~~ ~~●~~

Spiral shaped
in the mucos
epithelial cells

h-Pylori
overlying the

c)

⊖ Warthin Stain

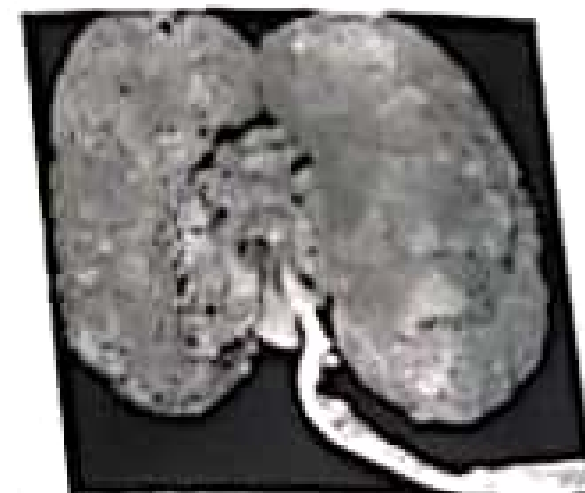
⊖ Giemsa stain

SGD:

19-year-old woman has had a fever and chills accompanied by right flank pain for the past 3 days. On physical examination, her temperature is 38.3°C, her blood pressure is 150/90 mm Hg, and there is right costovertebral angle tenderness. Laboratory findings show a serum glucose level of 77 mg/dL and creatinine level of 1 mg/dL. Urinalysis shows a pH of 6.5; specific gravity 1.018; and no protein, blood, glucose, or ketones. Microscopic examination of the urine shows many WBCs and WBC casts.

1. What is your diagnosis? *Acute Pyelonephritis*
2. Name 2 routes of infection with commonly involved organisms.
3. Enlist predisposing factors...

Homeo
Acute Pyelonephritis



b2 -> a) - Acute Pyelonephritis.

b) - Ascending Infection -
- Hematogenous Spread -

c). E. coli, Proteus, Klebsiella, Enterobacter.
Immunocompromised, pregnancy, Gender, Age
Diabetes mellitus

SGD:

A 30-year-old woman with a history of recurrent urinary tract infections has had a high fever for the past 3 days. On physical examination, her temperature is 38.4°C. There is marked abdominal tenderness on deep palpation. A renal ultrasound scan shows an enlarged right kidney with pelvic and calyceal enlargement and cortical thinning; the left kidney appears normal. A right nephrectomy is done, and microscopic examination is shown.

1. What is your diagnosis?
2. Describe gross/ histological features.
3. Name 2 complications.



63).

a). Chronic pyelonephritis

b). ^{GROSS} coarse discrete corticomedullary scar
overlying dilated blunted or deformed
calices and flattening of papillae

MICROSCOPY

- ⊖ Tubular atrophy
 - ⊖ Chronic inflammatory infiltrate
 - ⊖ Hyaline casts
- c).
- ⊖ Focal segmental glomerulosclerosis
 - ⊖ Proteinuria
 - ⊖ End-stage renal disease



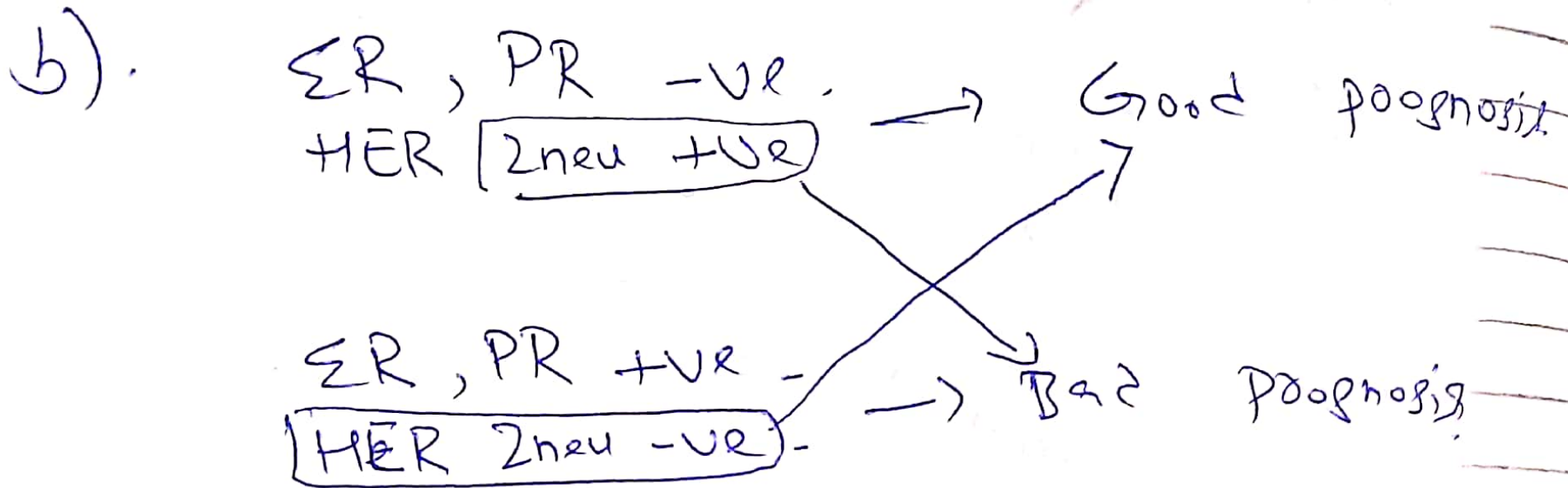
Paget disease

A middle aged female presented to surgical OPD with complaints of unilateral erythematous eruption on the nipple of her right breast with a scale crusty discharge. She also complained of pruritis. On examination examination of the breast showed a large dark brown crusted area on the nipple. Nipple biopsy showed large polygonal cells with pale cytoplasm.

- 1) What is the diagnosis?
- 2) What do you expect about the prognosis of the disease?
- 3) What are the immunohistochemical markers and ER, PR and HER 2 NEU status? 2

L 7

9) Paget disease -



Wilson disease and related deficiencies

2- Kayser-Fleischer rings. Greenish to brown deposit of copper



A 32-year-old male with long-standing speech difficulties and tremors. Lab tests also show elevated liver enzymes, decreased serum ceruloplasmin, increased hepatic copper and urinary copper. On examination the above finding is noted in the eyes of the patient. Liver biopsy shows hepatocyte ballooning and Mallory-Denk bodies.

1. What is the most likely diagnosis?
2. What is the finding in his eye?
3. Which stain can be used to highlight copper in liver biopsies?

1- Wilson disease

2 3
3- Rhodamine stain for copper

72

(A) Wilson disease

(B) ATP7B mutation

(C) Pathogenesis

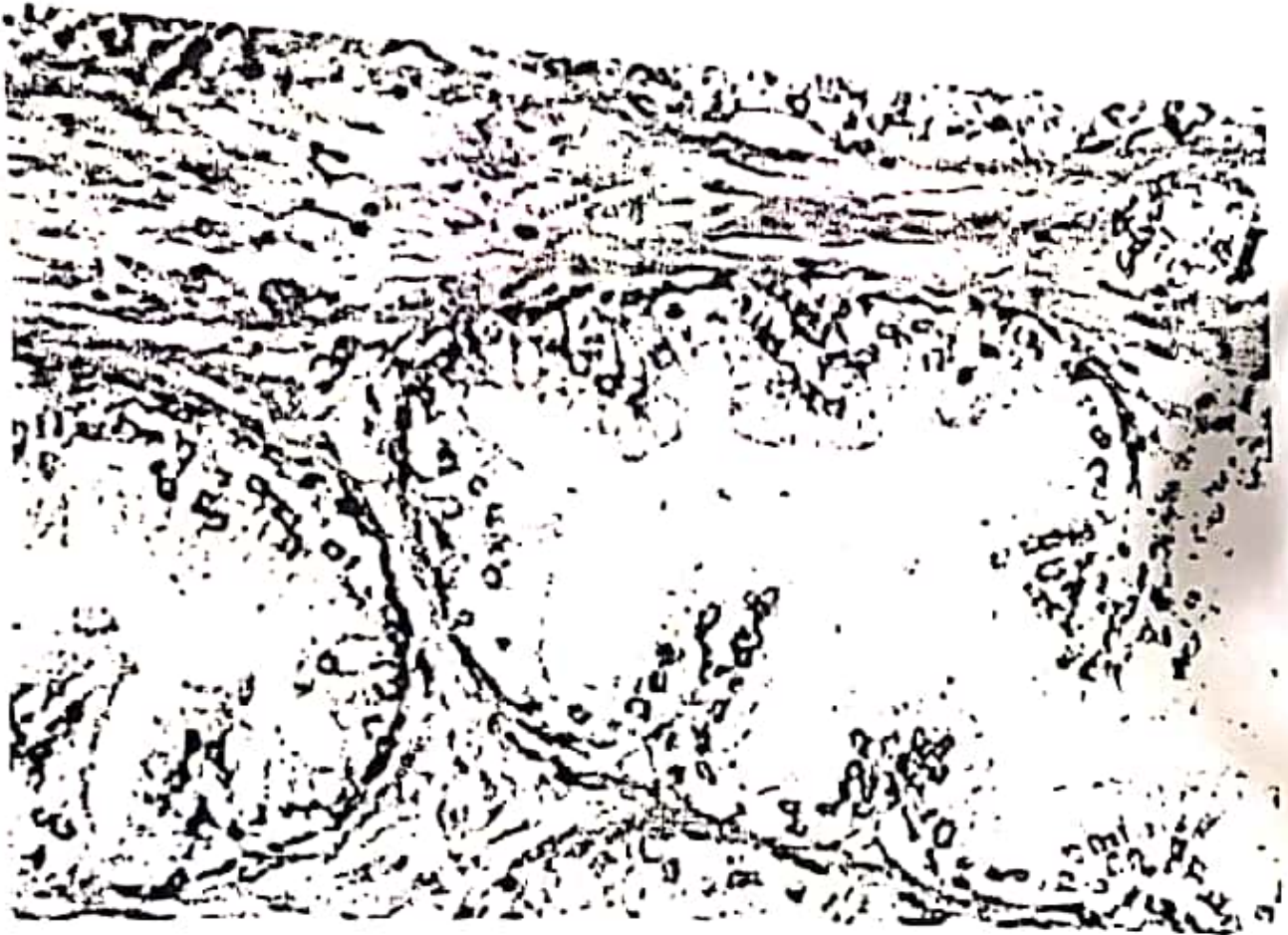
- Dec. in copper transport in bile
- Dec. ceruloplasmin secretion in blood.
- Accumulation of copper in liver.

(D) Rhodamine stain for copper.
orcein stain for ceruloplasmin.

(E) Kayser fleischer ring in the eye.

SGD

A man of 65 years old have complaint of Hesitancy ,Urgency ,Frequency and Nocturia for which he was operated and histopathology of removed specimen is as below the image.



Q-1 What is mostlikely diagnosis

Q-2 What are others histological features of (BPH) Benign Prostatic Hyperplasia ?

Q-3 what is commom lobe involveꝑ in this lesion ?

Q-4 What are facilities avaiable to diagnose the this lesion.

69)

(a) BPH

(B) Histological Features of BPH:-

- Glandular proliferation.
- Fibromuscular stroma with lymphocytes.
- Gland is lined by two layers of cells.
inner columnar and outer cuboidal.

(C)

median lobe

(D)

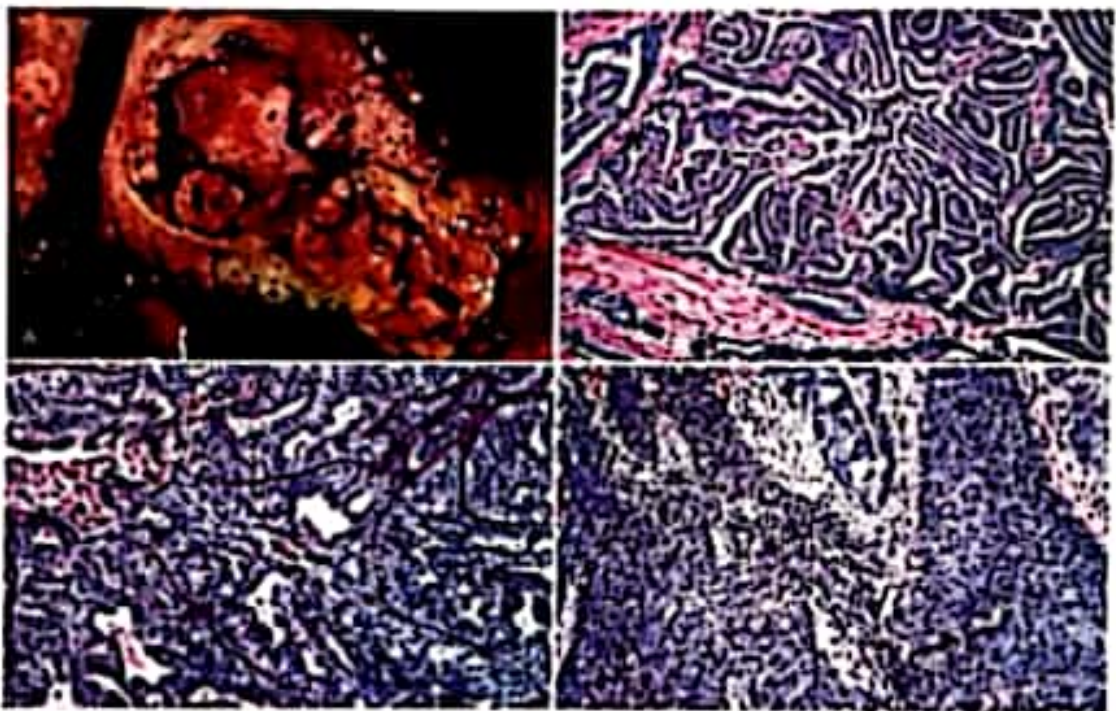
Digital rectal examination, PSA level ↑, urine examination, Blood examination.

ANMC

OSPE

Topic Female Genital tract

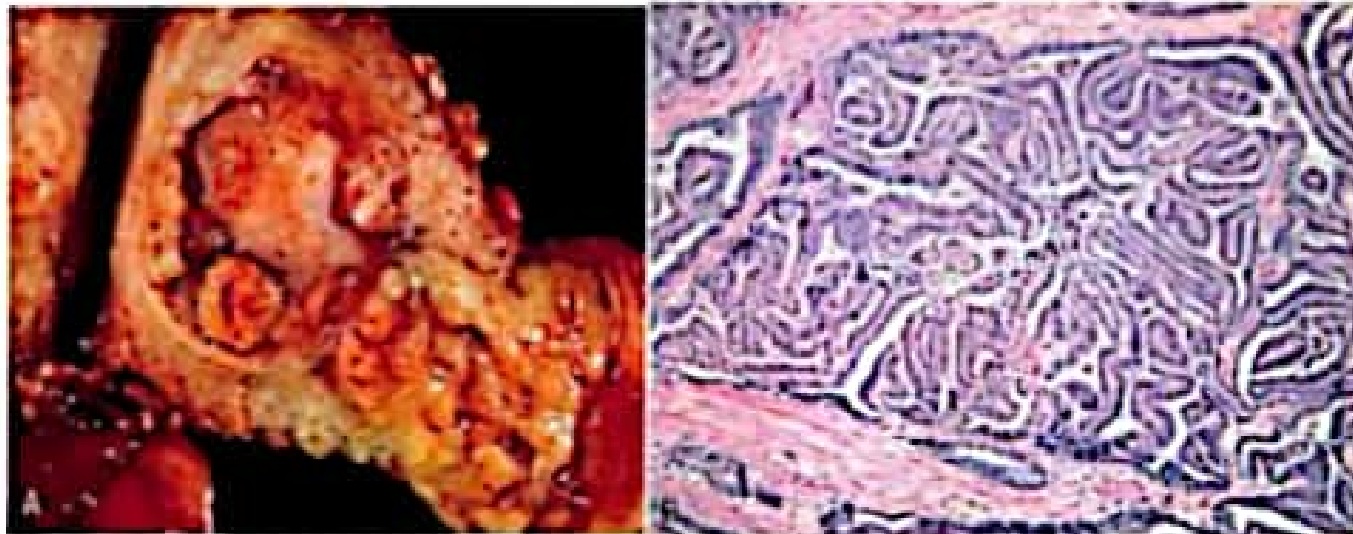
A 35 year old female presented in outdoor clinic with heavy menstrual bleeding. On USG examination uterine growth was identified in the endometrial cavity. You are shown the microscopic appearance of the tumour.



- 1- What is your diagnosis. 1
- 2- Classify endometrial hyperplasia.2
- 3- Which gene is implicated in the pathogenesis of this lesion. 1

1. type 1 endometrial carcinoma
2. WHO CLASSIFICATION
non-atypical hyperplasia and atypical hyperplasia
3. PTEN tumor suppressor gene

SGD ENDOMETRIAL CARCINOMA

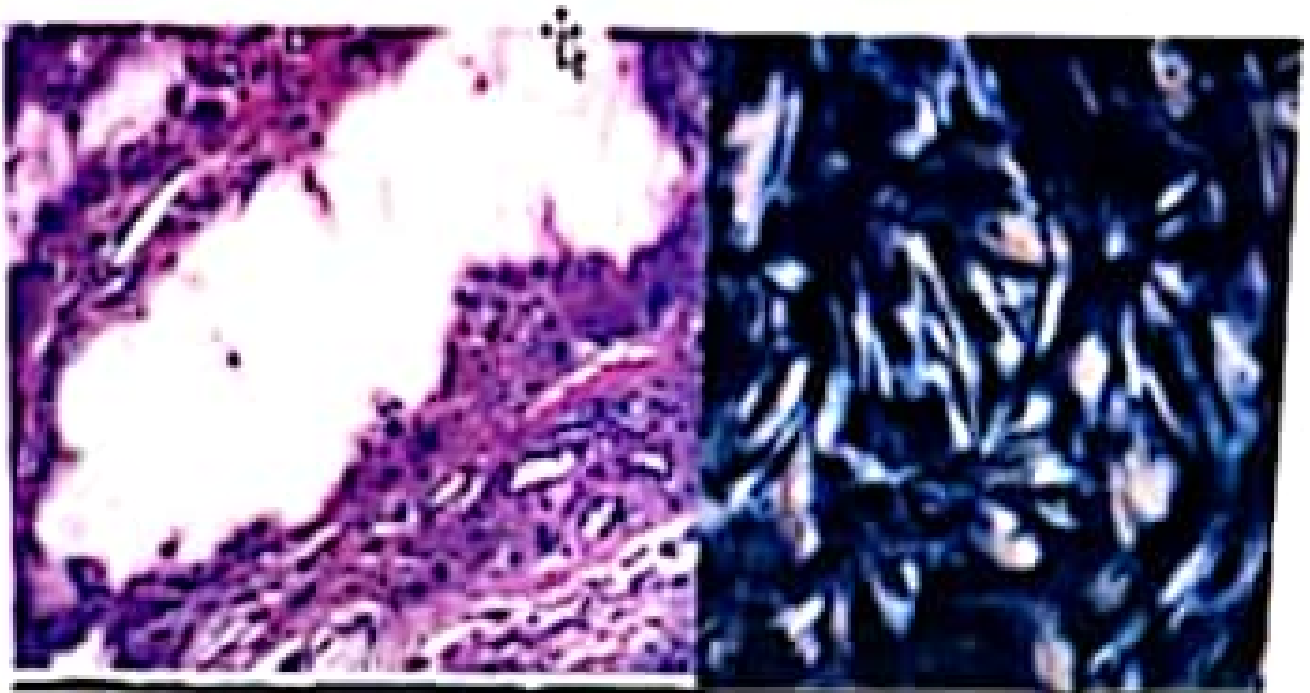


A 44 years old woman with a blood tinged vaginal discharge for one month has a biopsy followed by hysterectomy. The gross appearance of her uterus shows exophytic irregular lesion in the endometrial cavity.

- 1. What is the most likely diagnosis?**
- 2. What are the differences between type I and type II endometrial carcinomas?**
- 3. Give an account of GRADING and staging of endometrial Carcinoma.**
- 4. What is endometriosis and adenomyosis.**

59)

- a) Type I endometrial carcinoma
- b)
 - ⊙ non-atypical hyperplasia
 - ⊙ atypical hyperplasia
- c) PTEN Gene



A 30 years old develops excruciating pain in the first metatarsophalangeal joint. The pain was associated with localized hyperemia, warmth and tenderness. Tophi are also identified and serum uric acid levels are markedly raised.

1. What is the most likely diagnosis?
2. Discuss the morphology of tophus.
3. What are the lab investigations that can confirm the diagnosis?

67/

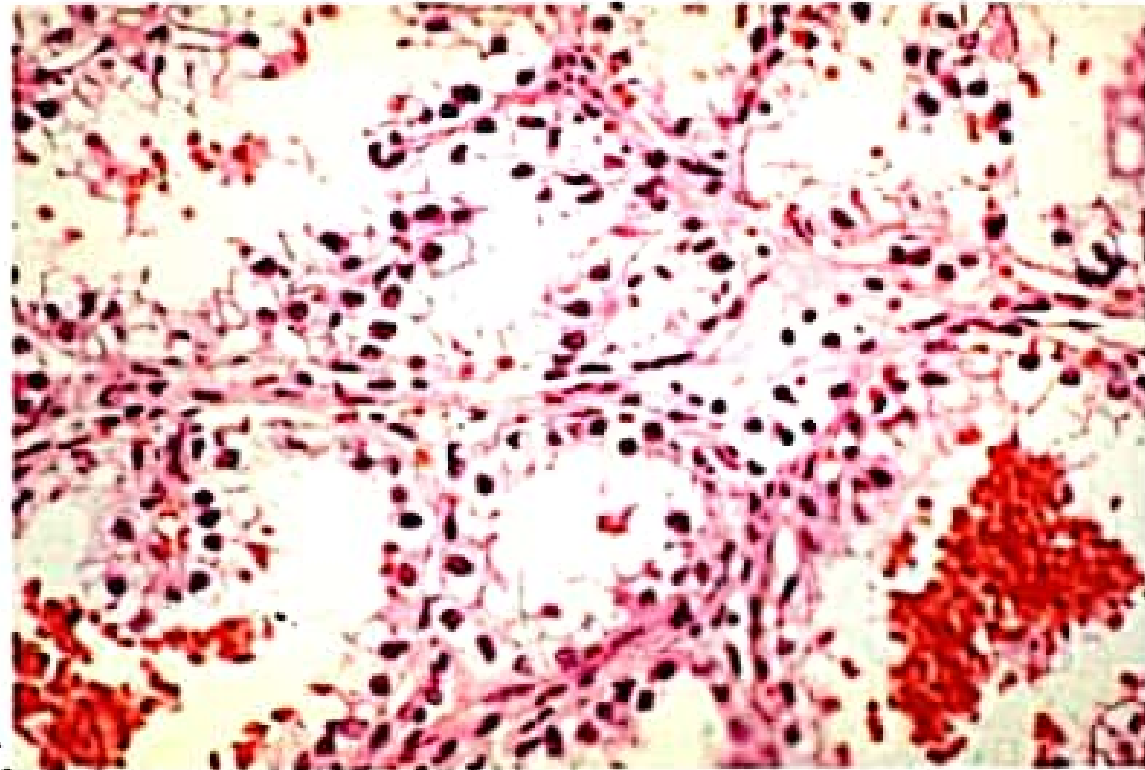
a). GOUT.

- b).
- Large aggregation of uric acid crystals.
 - Inflammatory reaction of foreign body joint cells.

- c).
- Uric Acid levels.
 - X-ray joint profile
 - Lipid profile
 - RFT's.
 - RPR

Topic renal system

Photomicrograph shows a section from a tumour from kidney of a 50 year



old male patient.

RCC

1- Give the diagnosis.

Von Hippel Lindau syndrome

2- What hereditary syndrome is associated with this lesion.

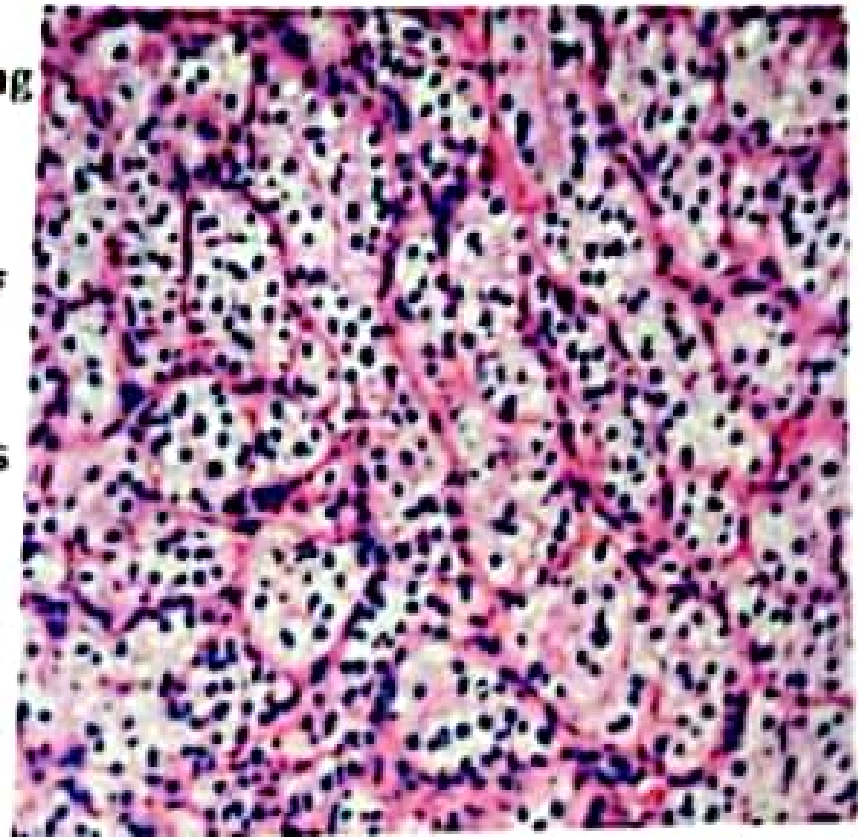
3- Name two ectopic hormones produced by this lesion.

PTHrP, erythropoietin, renin, ACTH

STATION :

A 60-year-old man presents with a feeling of fullness in his abdomen and a 5-kg weight loss over the past 6 months. Laboratory studies show hemoglobin of 8.2 g/dL, hematocrit of 24%, and MCV of 70 μm^3 . Urinalysis shows 3+ hematuria, but no protein, glucose, or leukocytes. Abdominal CT scan shows an 11-cm mass in the upper pole of the right kidney. A right nephrectomy is performed, and on gross examination the mass invades the renal vein.

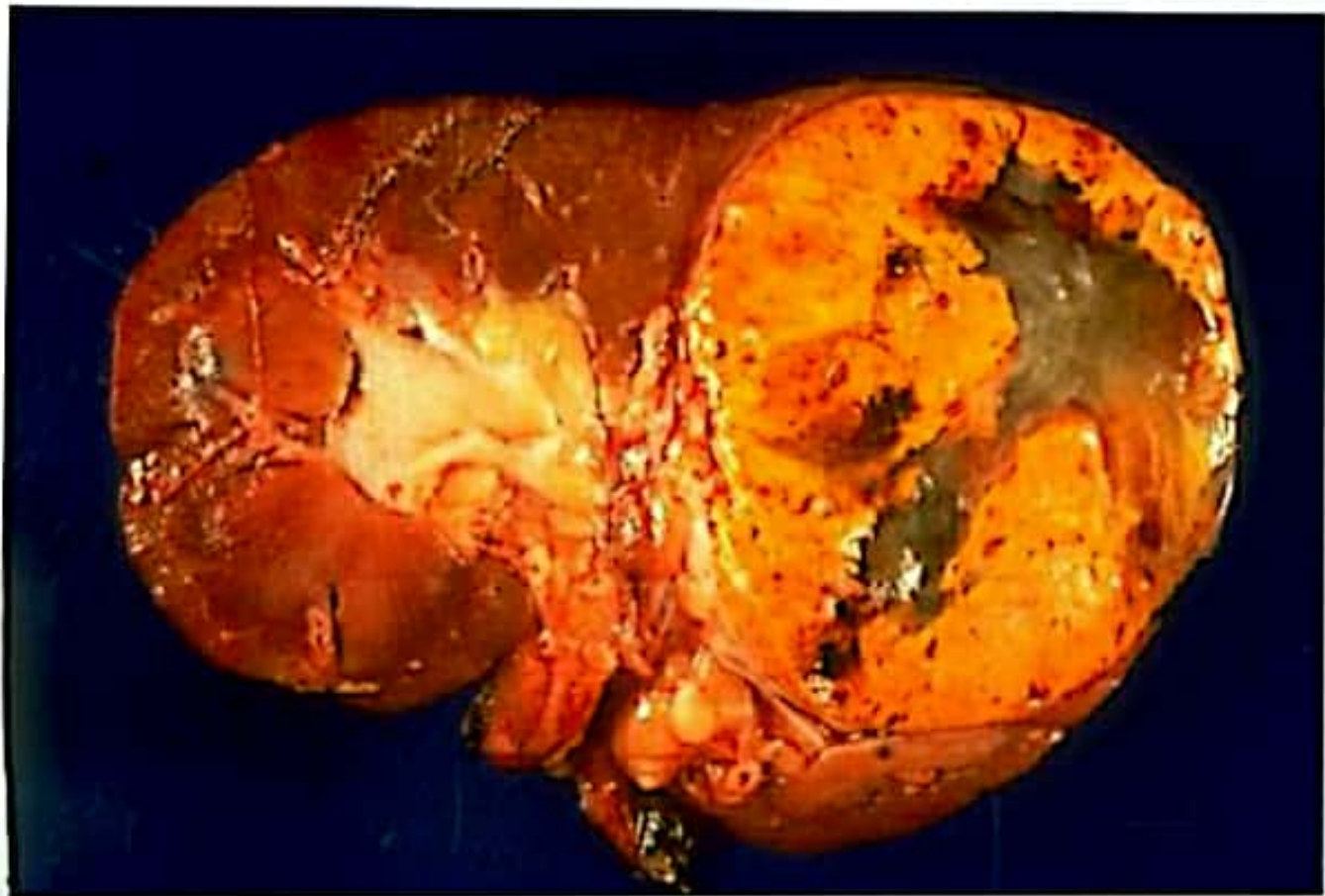
- 1) What is your diagnosis?
- 2) What are its types?
- 3) Describe its morphology.



Topic renal pathology

Renal cell carcinoma.

A 5 year old boy presented with abdominal mass. Ultrasonography revealed a mass attached to upper pole of right kidney.



Q-1 what is the diagnosis

Describe its gross appearance

What is the prognosis of lesion

RCC

bright yellow due to lipid, areas of gray white necrosis, foci of hemorrhage

5yr survival 70%

95% in absence of metastases

60% with renal vein invasion

and Cystic are

60-year-old man presents with a feeling of fullness in his abdomen and weight loss over the past 6 months. Laboratory studies show hemoglobin of 10 g/dL, hematocrit of 24%, and MCV of 100 μm^3 . Urinalysis shows 3+ hematuria, but no protein, glucose, or leukocytes. Abdominal CT scan shows an 11-cm mass in the upper pole of the right kidney. A right nephrectomy is performed, and on gross examination the mass invades the renal vein.



- 1) What is your diagnosis?
- 2) What are its types?
- 3) What is the most common type?
- 4) Describe its morphology.
- 5) What are the syndromes associated and their gene involvement?

64)

a) ~~RLC~~

b) Clear cell,
Papillary
Chromophobe,
Bellini's duct,
Xp11 translocation.

c) Grey white ~~tubular~~ masses,
spherical
micro:

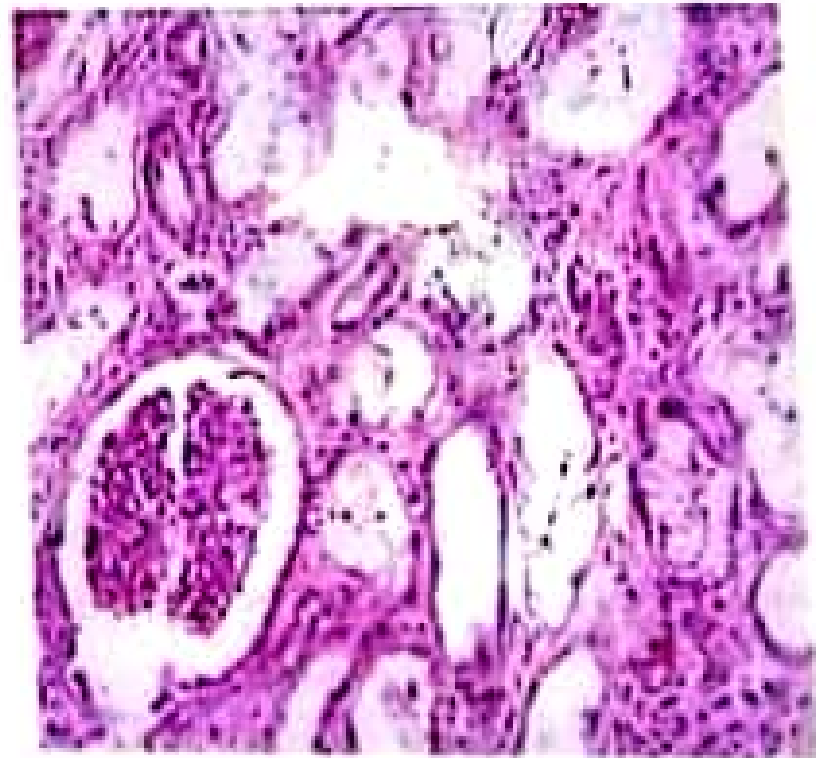
- Polygonal cells -
- Clear cytoplasm.
- Branching vasculature

Acute renal failure

STATION:

A 26-year-old man is involved in a motor vehicle accident and sustains acute blood loss. He is hypotensive for several hours before paramedical personnel arrive. They stabilize the bleeding and transport him to a hospital, where he receives a transfusion of 3 U of packed RBCs. Over the next week, the serum urea nitrogen level increases to 48 mg/dL, the serum creatinine level increases to 5 mg/dL, and the urine output decreases. He undergoes hemodialysis for the next 2 weeks and then develops marked polyuria, with urine output of 2 to 3 L/day. His renal function gradually returns to normal.

1. What is your diagnosis? 3
2. Name 2 major etiologies? 2-5
3. Name 3 stages of its clinical course. 1-5



65).

a) Acute Tubular Injury

b) Ischemic Injury
Toxic Injury

c)

Initiation Phase
Maintenance Phase
Recovery Phase

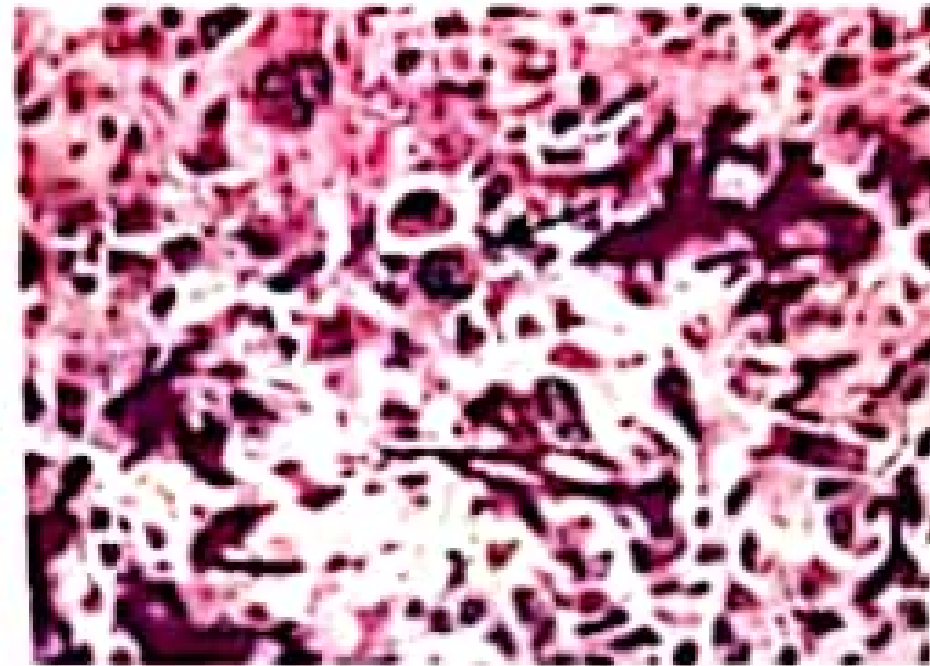
SGD - SKELETAL SYSTEM

I

03 / 101

A young man of 20 years has pain and swelling in his left knee joint which persists even with painkiller medicine. X-Ray of knee joint reveals a lifting of Periosteum and speculated Sun-burst Lesion pattern and Cod-mans triangle in the distal end of femur

- A. Which is most likely diagnosis?
- B. Enumerate the other common sites involved by this lesion
- C. Classify the bone tumors.



A young man of 20 years has pain and swelling in his left knee joint which persists even with painkiller medicine. X-Ray of knee joint reveals a lifting of Periosteum and speculated Sun-burst Lesion pattern and Cod-man's triangle in the distal end of femur.

- A. Which is most likely diagnosis?
- B. Give its morphology
- C. Enumerate the other common sites involved by this lesion
- D. Classify the bone tumors

a) Osteosarcoma

- b)
- Knee
 - Shoulder
 - Hip joint
 - Jaw
 - Upper part of arm

c) classity.

Benign: Osteoblastoma
Ostroid osteoma

Malignant: Osteosarcoma

d) Morphology: Gristly gray white mass.
Bizzare giant cells, mitoses, vascular invasion.

6

SGD

40 Years male with family history of allergy having complaint of dyspnea with prolong expiration and wheezing. In CBC, there is elevated eosinophilic count.

- a) What is most likely diagnosis?
- b) What are churchman spirals?
- c) What are main types of Asthma?

t

60

a) Asthma

B) mucus plugs contain whorls of shed epithelium giving rise to spiral shaped mucus plugs

c)

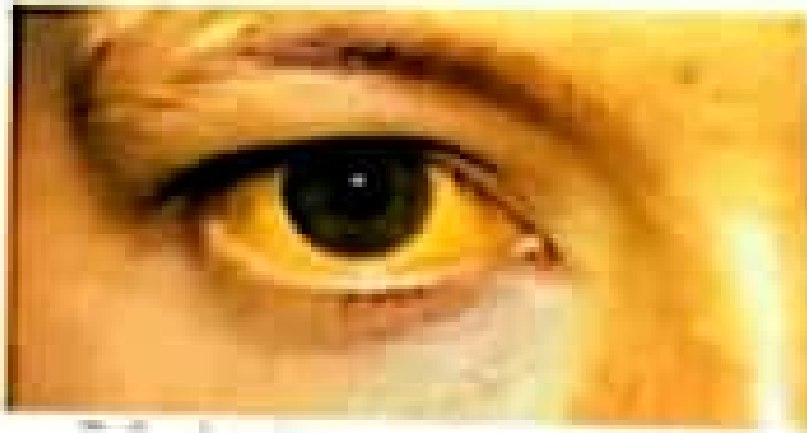
⊙ Atopic

⊙ Non-Atopic

1- 0.3-1.2 mg/dL

Topic: Jaundice & cholestasis

page 852-858



41

1. What is the normal range for bilirubin level?

2-it is partial or complete obstruction of lumen of extrahepatic biliary tree within first 3 months of life. Leading cause of cirrhosis and liver transplantation in neonates.

2. What are the major causes and signs of cholestasis?

3. Based on the morphology of biliary tract what are the three types of biliary atresia?

3- (i) common duct type I

(ii) right or left hepatic bile ducts. Type II

(ii) obstruction of bile ducts. Type III

J a u n d i c

57

→ Normal bilirubin level
0.3 - 1.2 mg/dL

→

→ Types of Biliary atresia

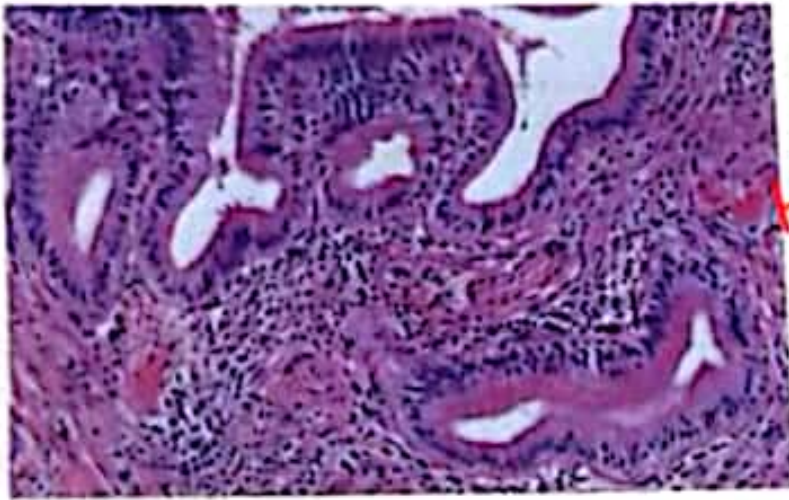
- ① Common duct Type I
- ② Right or Left Hepatic Bile duct (Type II)
- ③ obstruction at Bile duct Type III

→ Biliary atresia

complete and partial obstruction
of lumen of extra-hepatic
Biliary Tree

1- (i) supersaturation of bile with cholesterol

A 50 years old lady presents with history of dull right upper quadrant pain and flatulence for the past one year. Ultrasound showed numerous stones in the gall bladder. Cholecystectomy was done and microscopic picture is given below.



Histo-Presence of inflammatory infiltrate in wall... fusion of mucosal folds ... Rokitansky-Aschoff sinuses

1. What is the pathogenesis of cholesterol stones? (2)
2. What diagnosis will you give on histopathology report for the given picture? (1)

(ii) hypomotility of gall bladder

(iii) accelerated cholesterol crystal nucleation

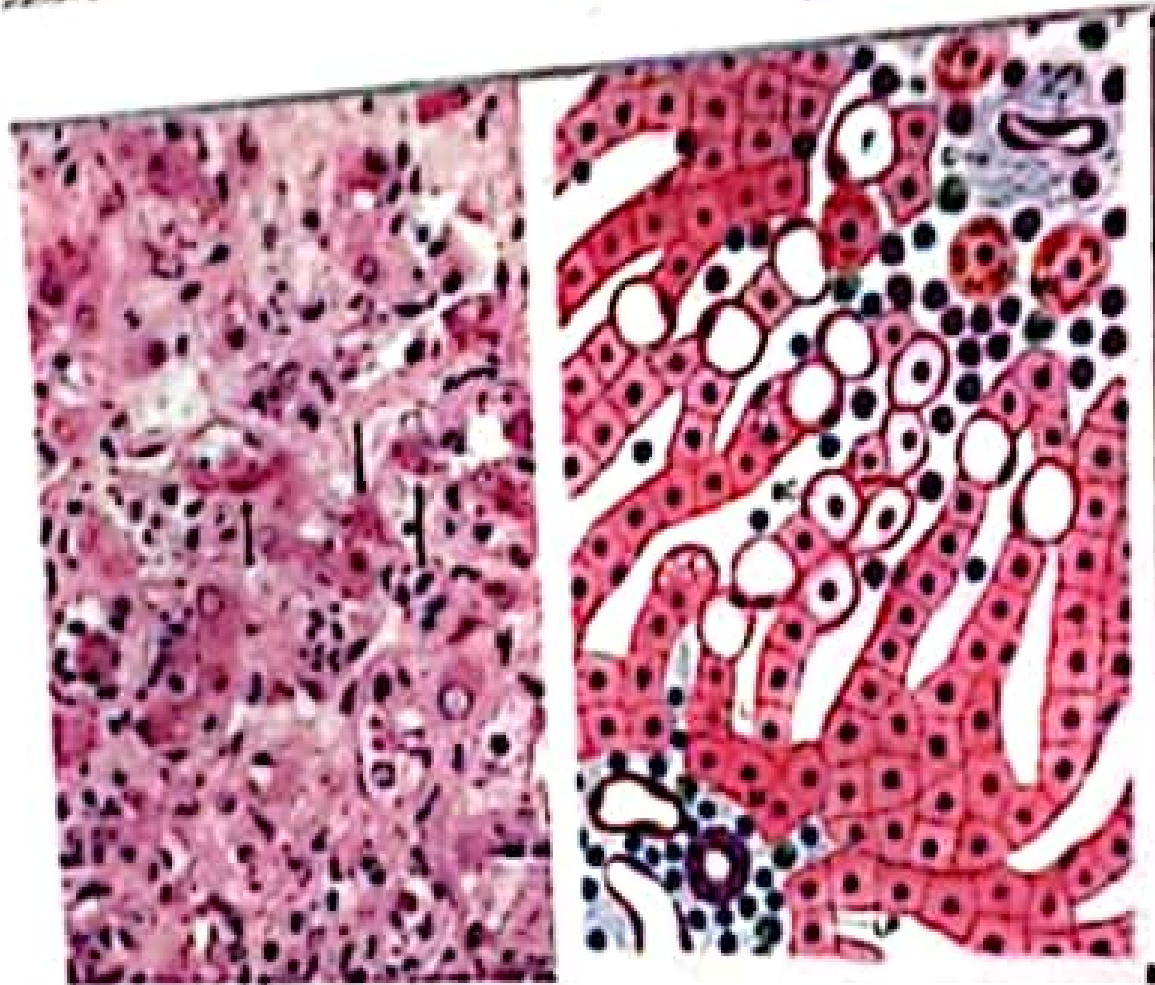
(iv) hypersecretion of mucus in gall bladder

2- cholelithiasis

a) Cholesterol stone
Pigment stone

- b)
- ① supersaturation of bile
 - ② Hypomotility of gall-bladder
 - ③ accelerated cholesterol crystal nucleation
 - ④ Hyper-secretion of mucus in gall-bladder

- c)
- ① variable degree of inflammation
 - ② subepithelial and sub-serosal fibrosis
 - ③ Rokitanisky ASchoff sinuses
 - ④ Porcelain gall-bladder



A 41-year old man is found in an unconscious state and taken to the hospital. He is icteric. His abdomen is enlarged with a fluid wave. Laboratory studies show total protein 6.5 g/dL, albumin 2.8 g/dL, total bilirubin 4.8 mg/dL, AST of 563 U/L, ALT 317 U/L, alkaline phosphatase 55 U/L, and ammonia 91 micro mol/L. A liver biopsy is performed and microscopically demonstrates abundant Mallory hyaline, neutrophilic infiltrates, hepatocyte necrosis, portal fibrosis, and extensive macrovesicular steatosis.

1. What is your diagnosis? 1
2. What are Mallory-Denk bodies? 1
3. Name 3 liver pathologies that can be encountered in an alcoholic patient? 1

46

Alcoholic Steatohepatitis

B1 many dark bodies

~~Alcoholic~~ clumped amorphous eosinophilic
material in ballooned hepatocyte

C)

- ① Alcoholic steatosis
 - ② steato hepatitis
 - ③ steato fibrosis
- } Liver Pathologies

A 45 years old male had diseased heart valves. Now he had complaints of high grade fever with chills for the past few days alongwith weakness and lassitude. The blood cultures were positive and vegetations were found on aortic and mitral valves as given below



- What is the most likely diagnosis? 1
- Are these vegetations septic or bland? 0.5
- Name four different types of conditions associated with vegetations. 1.5

1. infective endocarditis

2. septic

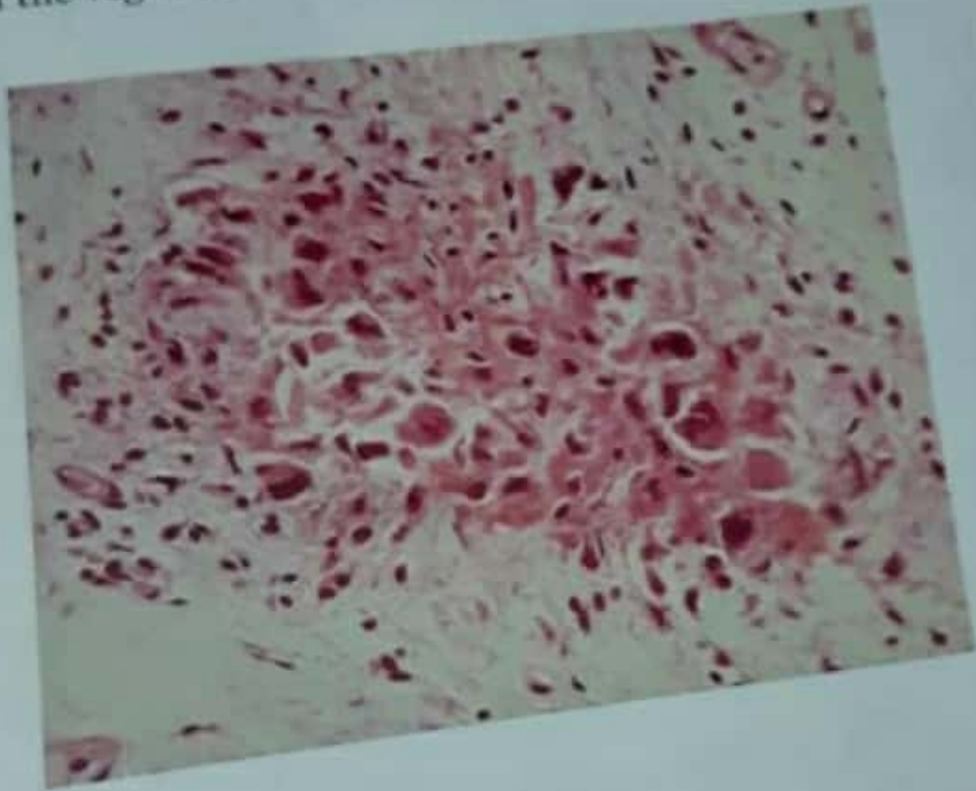
3. RHD

Infective endocarditis

NBTE (non bacterial thrombotic
endocarditis)

LSE (Libman-Sacks endocarditis)

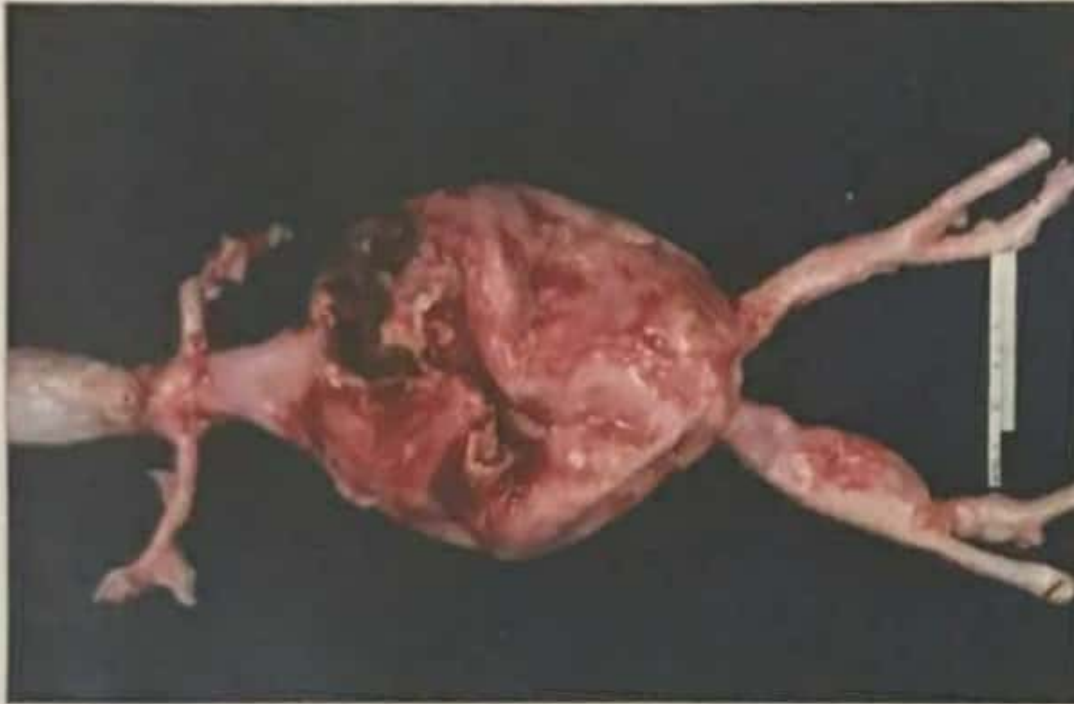
A 29 years old male was diagnosed as a case of Rheumatic heart disease. He had vegetations along the line of closure of valves. Biopsy of the vegetations revealed the following morphology.



- Identify the lesion. (1)
- What is the composition of this lesion (1)
- Which valve is commonly involved by this lesion. (1)
- How will you diagnose a case of Rheumatic Heart Disease (1)

- Aschoff body
- foci of T lymphocytes, plasma cells, plump activated macrophages (Anitschkow cells)
- mitral valve
- Jones criteria

A 60 years old known hypertensive who is also a chronic smoker went for routine medical checkup and found to have a pulsating abdominal mass. Few days later he died because of massive haemorrhage. Autopsy findings revealed the following changes in aorta.



- a. What is the diagnosis? 1
- b. What can be the complications of this lesion? 1
- c. What part of aorta is most commonly involved in this lesion? 1

1. AAA abdominal aortic aneurysm
2. rupture into peritoneal cavity, obstruction of vessels branching from aorta, embolism, impingement on adjacent structure
3. abdominal aorta

A 30 year old man presented in emergency department with history of fever, malaise and skin lesions. Echocardiography revealed a mass in heart.

Below is the gross and microscopic picture of the lesion. Carefully examine the picture and answer the following questions.



- a. What is the most likely diagnosis. 1
- b. Is this a benign or malignant lesion 0.5
- c. What is the favoured site of this lesion. 0.5
- d. Which syndrome is associated with these lesions. 1

1: atrial myxoma
2: benign
3: fossa ovalis
4: mc cune albright syndrome

g abuse presents in emergency department with
ils, weakness and lassitude .On General physical
palms and splinter hemorrhages on nail bed. On
tations on tricuspid valve.

condition?
op?



of this disease?

et and Synopsi of Clinical
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- 1: infective endocarditis
- 2: staphylococcus aureus
- 3: myocarditis
- septicemia
- glomerulonephritis
- arrhythmia
- systemic embolization

4-Myocardial infarction

A 45 year old diabetic Bank manager comes to hospital with central chest discomfort for the last 1 hour which is also radiating to left arm and jaw. He has associated nausea, shortness of breath and diaphoresis. His BP is 160/95; HR 95; cholesterol 350mg/dl. His BMI is 26. He smokes 20 cigarettes per day for last 25 years.

- a- What is the most probable diagnosis?
- b- How is it diagnosed in laboratory?
- c- Graphically explain and fall of cardiac Biomarkers?
- d- Which cardiac biomarker is the gold standard?



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1:MI
2:CK-MB,ctnt,ctni,HDL cholesterol
inc
4: troponin i(Tni)

9- Pericarditis

A middle aged man had a cardiac surgery for his damaged heart valve. After few days he developed chest pain which is not affected by exercise. The pain aggravates on lying down. On auscultation he has a prominent frictional rub.

- a- What is he suffering from?
- b- What can be the outcome of this disease?
- c- What is the morphology of chronic form?
- d- What can be the complications caused by it?

8- Myocarditis

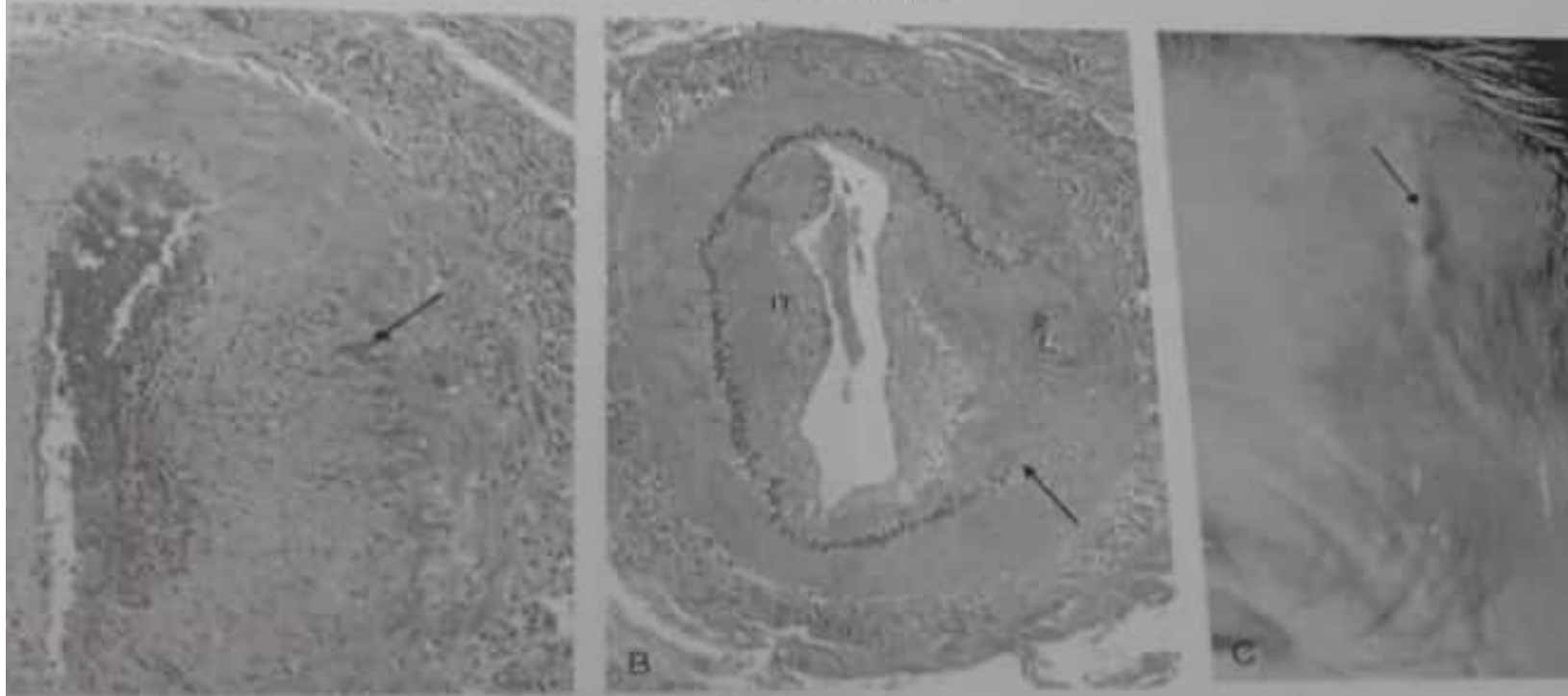
A 25 year old female presents to the OPD with shortness of breath on exertion and swollen feet. She mentioned having fever and body aches during the last one month. Physical Examination reveals normal heart sounds and respiratory system. A 12-lead ECG revealed no abnormality. Echocardiography revealed dilation of all four chambers of the heart.

- a- What is the most likely diagnosis?
- b- List few major causes of this disease?
- c- What other organisms can cause similar disease?

3- Giant cell (Temporal) arteritis

A 60 year old man presents to OPD with complaint of facial pain and headache. He is also having fever, malaise and fatigue. His General physical examination is unremarkable except that his temporal artery is having nodular thickening and is tender on palpation. He is normotensive and normoglycemic. His baseline investigations are within normal limits.

- a- What could be the underlying pathology?
- b- What are the key findings on histology?
- c- How is the sample obtained for histology?
- d- Categorise vasculitis on vessel size and list one example?



5-Rheumatic fever

A 12 year old girl presented to medical opd with a history of pharyngitis two weeks ago now she complains of fever and that her specific joint becomes swollen and painful and then it resolves spontaneously and then another joint is involved in a similar manner. On examination she has pericardial frictional rub and arrhythmia.

- a- What is the most probable diagnosis?
- b- What type of hypersensitivity reaction is involved?
- c- What is pathognomic morphologic finding in heart?
- e- Which criteria is used for its diagnosis?

2- Arteriosclerosis

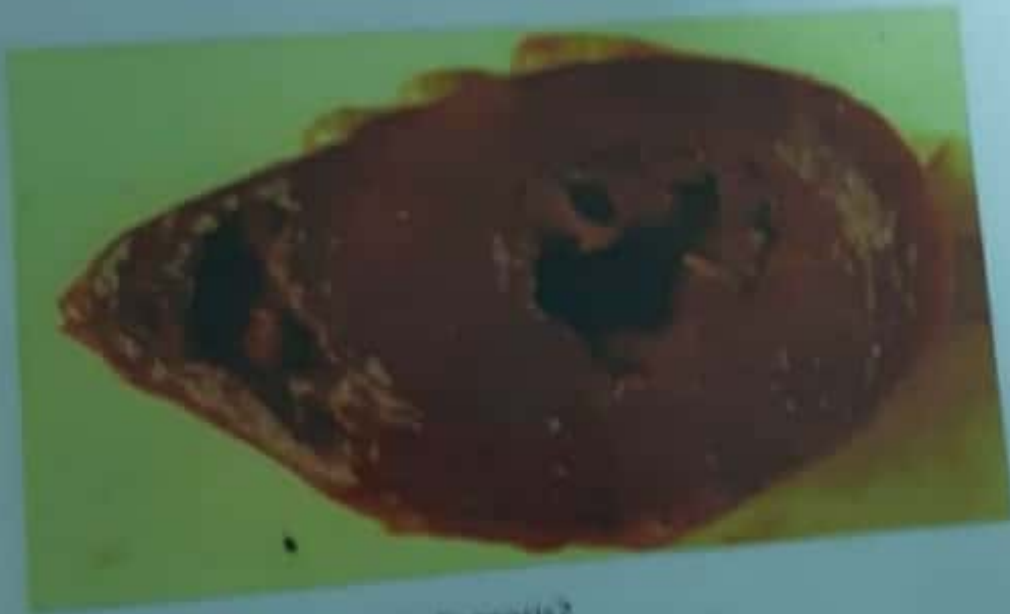
A 57 year old man has had blood pressure measurements in the range of 160/95 to 180/110 mm Hg for many years. He has taken no medications. A renal scan reveals kidneys of normal size for age. These findings along with benign nephrosclerosis suggest that

- The patient is suffering from ?
- What morphologic change you expect in these settings?
- What is the other related anomaly caused by longstanding hypertension?



1. hypertrophic cardiomyopathy
2. autosomal dominant

A 25 year old football player was playing in a match, when he felt short of breath and fell on the ground. The medical team arrived and found him unconscious. On physical examination they heard a systolic murmur. He was taken to emergency department and died while on the way.



- a- What is the most likely diagnosis?
- b- What is the hereditary pattern of this disease?
- c- What is seen on biopsy of heart?

3. massive myocyte hypertrophy, myocyte disarray, exaggerated myocyte branching, interstitial and replacement fibrosis

..., myoglobin) (cTnT, cTnI,

Q. A 66 years old male complaining of chest pain is brought to emergency room by ambulance. The pain began to hours ago. He describes pain as retrosternal, pressure like and radiating to left arm and jaw. He has past medical history of hypertension, cigarette smoking. Vital signs show a blood pressure 150/100 mm Hg. HR 98 beats/min respiratory rate 18/min

- a) What is your provisional diagnosis? 01
- b) What lab investigations should be done to confirm diagnosis? 1.5
- c) Name four modifiable and non-modifiable risk factors for above condition? 1.5

3. genetics, male gender,
increasing age, family history

smoking
hypertension
hyperlipidemia
diabetes
inflammation

1. What is the diagnosis? Hereditary spherocytosis
 Caused by defect involving ankyrin E1
spectrin in erythrocyte membrane. This
 cause a defect in erythrocyte surface membrane.
2. What are the causes of this condition?
3. What cells do you see on the blood film?
 → Small, dark staining red cells
 with no central pallor.
4. What do you see on U/S abdomen?
 → mild hepatomegaly
 • mild-to-moderate splenomegaly
 • Gall stone with dense rim
 • Non-obstructive bowel gas
 Pattern
5. Give are specific test which can help in diagnosis
6. Classify hemolytic anemia according to intracor

- Osmotic fragility test.
- Acidified glycerol lysis test.

A 16 years old Mediterranean boy presented to emergency with fatigue, weakness and discoloration of skin. He is having upper respiratory tract infection for past 1 week. There is history of such episodes as well.

On enzyme assay there is deficiency of enzymes

Lab shows all the features of hemolysis.

On Examination

Jaundice +

Pallor +

Splenomegaly +

Peripheral blood picture shows characteristic heinz bodies and bite cells

What is the diagnosis? Glucose-6-Phosphate Dehydrogenase Def

What is the cause of this? Due to Deficiency of enzyme Glucose-6-Phos Dehydrogen

What is the pathophysiology of this condition?

A 35 years old female gave history of induced abortion by a "Dai". She presented with massive bleeding per vaginum.

Lab tests are PT: Prolonged, APTT: Prolonged, Fibrinogen: Reduced, Platelet: Reduced.

Give the answer of these questions:

1. Give the most likely clinical diagnosis? DIC (Disseminated intravascular coagulation)
2. What tests will confirm the diagnosis?



Fibrinogen ↓

D-Dimer +ve.

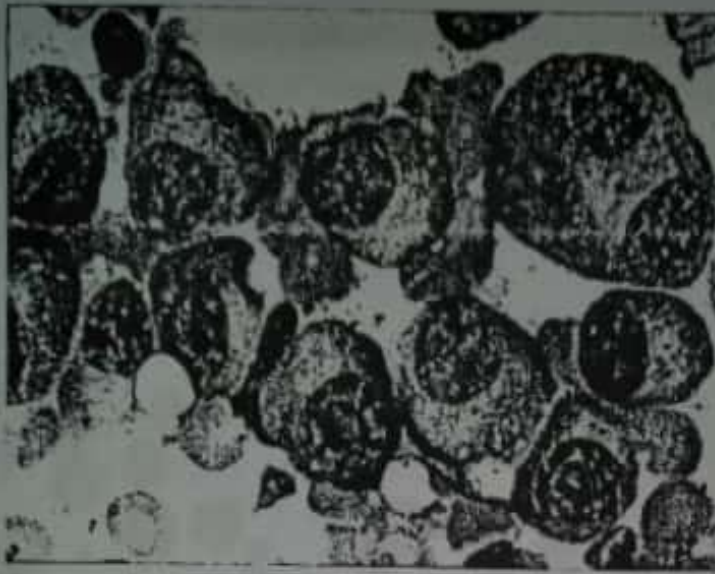
FDPs +ve.

Q. A 14 years old boy complains of a feeling of discomfort in his chest that has worsened over the past 5 days. On physical examination, he has generalized lymphadenopathy. A chest radiograph shows clear lung fields, but here appears to be widening of the mediastinum. A chest CT scan shows a 10-cm mass in the anterior mediastinum. A biopsy specimen of the mass shows lymphoid cells with lobulated nuclei having delicate, finely stippled, nuclear chromatin. There is scant cytoplasm, and many mitoses are seen. The cells express TdT, CD2, and CD7 antigens.

1. What is most likely diagnosis? Acute leukocytic leukemia (Tcell) (ALL)
2. Name the gene shows mutation in this case.

↳ NOTCH 1 mutation => Tcell

PAX5	=> Bcell
E2A	=> Bcell
EBF	=> Bcell
ETV6	=> Bcell



A 50 year old female presented with high grade fever, weight loss and bone pains. Radiological examination revealed sharply punched out lesions in skull. Electrophoresis revealed M-band.

1. What is the diagnosis? *Multiple Myeloma*
2. What are the morphological features?
3. What is bence jones protein?

- (2)
- i. Plasma cell
 - ii. Binucleated cell
 - iii. Myeloid cell
 - iv. cytoplasmic vacuole.

(3) These are present in urine. It is monoclonal globulin protein, suggestive of multiple myeloma.



A 22 year old woman presents with fever, weight loss, night sweats and painless enlargement of several supraclavicular lymph nodes. A biopsy from one of the enlarged lymph nodes is shown in the photomicrograph below. The binucleate giant cell with prominent acidophilic "owl-eye" nucleoli shown stains positively with both CD 15 and CD 30 immunoperoxidase stains. Also present are atypical mononuclear cells that are surrounded by clear spaces (lacunar cells).

1. What is the diagnosis? Hodgkin lymphoma.
2. Which cell is the malignant component? Reed steinber cells
3. Enlist its variants?

- (3)
 - i. N. sclerosis
 - ii. mild cellularity
 - iii. Lymphocyte
 - iv. Lymphocyte predominant
 - v. Lymphocyte depletion.

Q. A 34 years old man has experienced multiple nosebleeds along with bleeding gums for the past month. On examination, his temperature is 37.3°C . He has multiple cutaneous ecchymoses. Laboratory studies show hemoglobin, 8.5 g/dL; hematocrit, 25.7%; platelet count, $13,000/\text{mm}^3$; and WBC count, $52,100/\text{mm}^3$ with 5% segmented neutrophils, 5% bands, 2% myelocytes, 83% blasts, 3% lymphocytes, and 2% monocytes. Examination of his peripheral blood smear shows the blasts have delicate nuclear chromatin along with fine cytoplasmic azurophilic granules. These blasts are CD33+

1. What is most likely diagnosis? Acute myeloblastic leukemia A
2. What morphological finding most likely to be present on peripheral blood smear?

(2)

AUERS RODS

A 15 years old boy comes in emergency with complaint of severe pain in the leg .he also complains of weakness and excessive fatigue and repeated infections.

On examination, leg ulcer and pain in leg , it was tender on palpation

.LABS shows HB low , MCV low , MCH low .

ON peripheral smear abnormal cells which look like spindles, thin and elongated



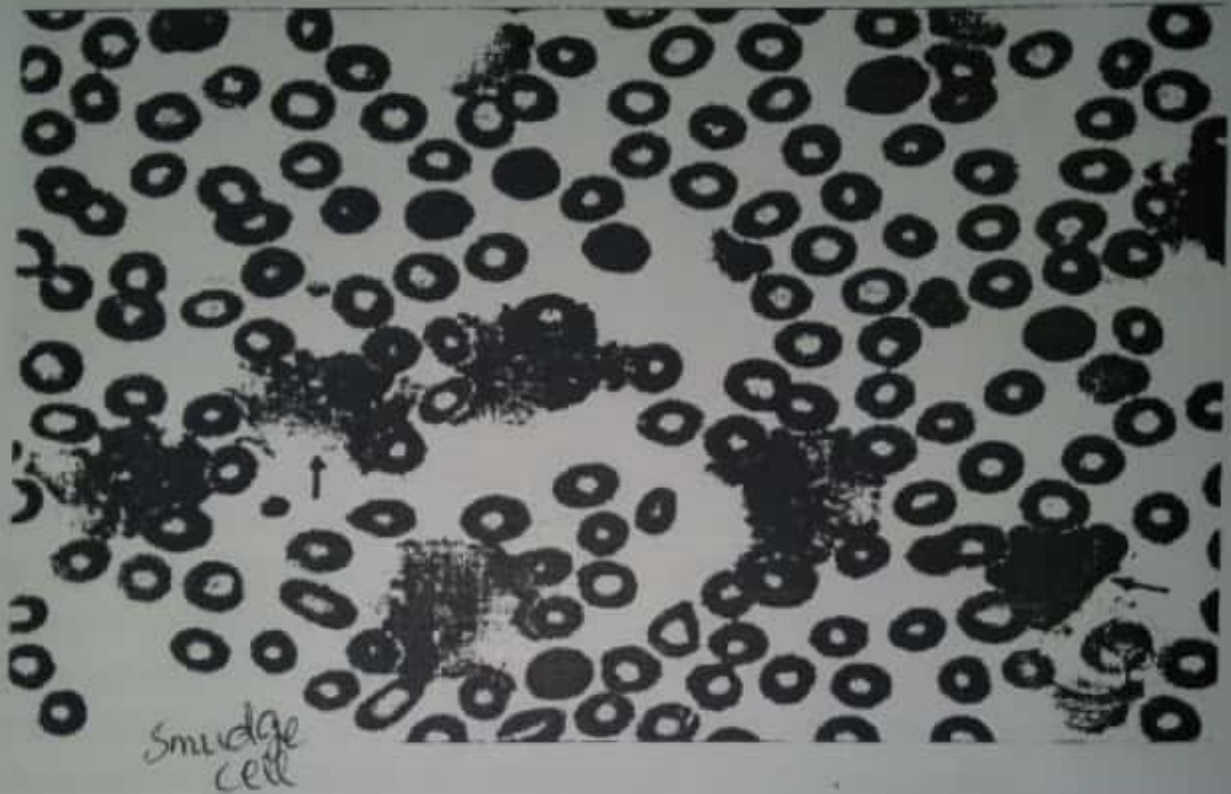
1. What is diagnosis ?
2. What are causes of this condition?
3. What are signs and symptoms of this condition?
4. Classify HEMOLYTIC ANEMIAS

① Sickle cell anemia

② caused by \Rightarrow Point mutation in β globin that promote the polymerization of deoxygenated Hemoglobin

③ (i) Pain crises (ii) Dactylitis (iii) Fatigue
(iv) Ulcer (v) Splenic sequestration

A 72 years old man presents with increasing fatigue. Physical examination reveals an elderly man in no apparent distress (NAD). He is found to have multiple enlarged, nontender lymph nodes along with an enlarged liver and spleen. Laboratory examination of his peripheral blood reveals a normocytic normochromic anemia, a slightly decreased platelet count, and a leukocyte count of 72,000 cells/ μ L.



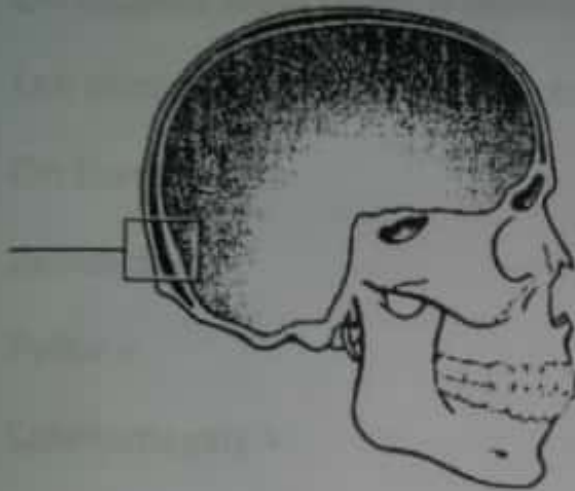
1. Which of the following is the most likely diagnosis? CLL
2. What are the other features of this disease?
3. What is the prognosis?

- ②
- i Splenomegaly
 - ii Lymphadenopathy
 - iii Anorexia

③

Poor prognosis
 Progression
 Already old age
 so no treatment

A 5 year old boy presented with Microcytic hypochromic anemia and enlarged spleen. Spleen reveals splenic sequestration of Red blood cells. His skull bones reveal corkscrew appearance. The boy is advised multiple blood transfusions with removal of spleen.



Q-1 what is the diagnosis? β -Thalassemia Major

Q-2 What are its types?
 i. β -Thalassemia Major
 ii. β -Thalassemia Intermedia
 iii. β -Thalassemia minor

Q-3 If Multiple blood transfusions cause iron over load. What should be the treatment ?

Q. 4 What is the diagnostic test?

Q. 5 What happens to TIBC, serum iron and bone marrow stores?

- (3) i-Deferoxamine
 ii-Deferocetrox
 iii-chelatin Therapy.

(4) CBC is special Hemoglobin test.

(5) Normal.

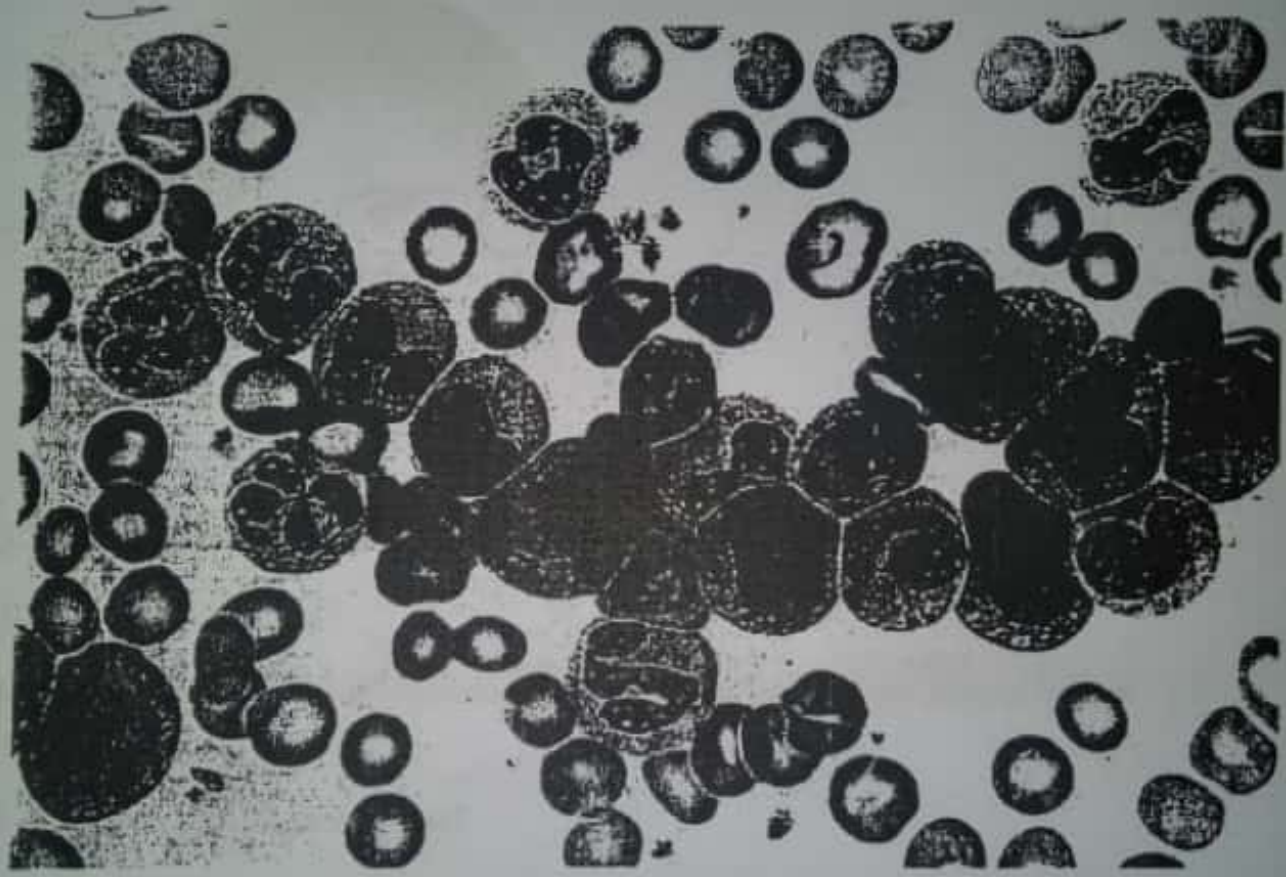
Q. A 4 year old boy has appeared listless for about 1 week. He now complains of pain when he is picked up by his mother, and he exhibits irritability when his arms or legs are touched. In the past 2 days, several large ecchymoses have appeared on the right thigh and left shoulder. CBC shows hemoglobin, 10.2g/dL; hematocrit, 30.5%; MCV, 96 μm^3 ; platelet count, 45,000/ mm^3 ; and WBC count, 13990/ mm^3 . Examination of the peripheral blood smear shows blasts that lack peroxidase positive granules, but contain PAS-positive aggregates and stain positively for TdT. Flow cytometry shows the phenotype of blasts to be CD 19+, CD3- and sIg-.

1. What is most likely diagnosis? Acute lymphoblastic leukemia, (Pre-B cell)
2. What TdT stands for?
3. What immunological markers you can find in this case?

② Terminal deoxynucleotidyl Transferase.

③ CD3, CD19⁺, sIg Fox => B cell
 TdT, CD2 & CD7. Fox => T cell

A 38 years old man presents with increasing weakness and is found to have a markedly elevated peripheral leukocyte count. Laboratory testing on peripheral blood finds a decreased leukocyte alkaline phosphatase (LAP) score, while chromosomal studies on a bone marrow aspirate in the presence of a Philadelphia chromosome. This abnormality refers to a characteristic chromosomal translocation.



1. What is the diagnosis? Chronic Myeloid Leukemia (CML)
2. What translocation is present? 9 & 22 chromosome
3. Describe the peripheral smear picture.
 - (i) Metamyelocyte
 - (ii) Myelocytes
 - (iii) Basophils
 - (iv) Eosinophils



Q. A 25 years female presented to OPD with shortness of breath, dizziness & palpitations.

On examination:

Pallor +

Nail changes + ✓

CBC Shows Hb 7g/dL

MCV 60 fl

MCH 21 pg

Peripheral blood film shows

Microcytes (+)

Hypochromia (+)

Anisocytosis (change in cell size) +

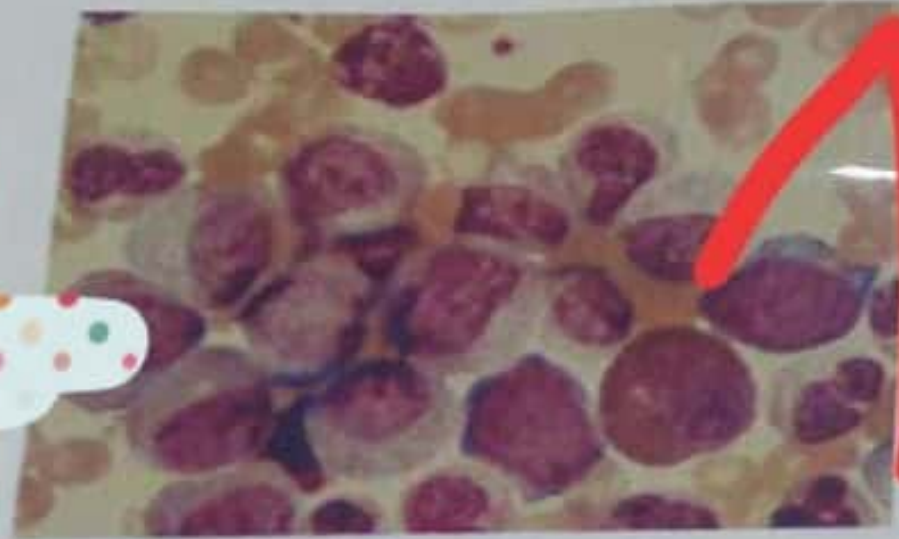
Poikilocytosis (change in shape of cell) +

- 1) What is the diagnosis?
- 2) What lab investigations are required to rule out the etiology?
- 3) What are the causes of this condition?
- 4) What is the role of iron?
- 5) Where iron is absorbed? Duodenum & upper Jejunum
- 6) What is iron regulator? hepcidin (synthesized by liver)
- 7) What are the storage forms of iron?
- 8) What is transferrin?
- 9) What is DMT?

- ① Iron deficiency anemia
- ② CBC, MCH, MCV, Serum Iron, Ferritin, Hb
- ③ (i) Iron deficiency (ii) Blood loss (iii) low diet intake
- ④ Role -> Iron is essential component for Hemoglobin Production

-CML

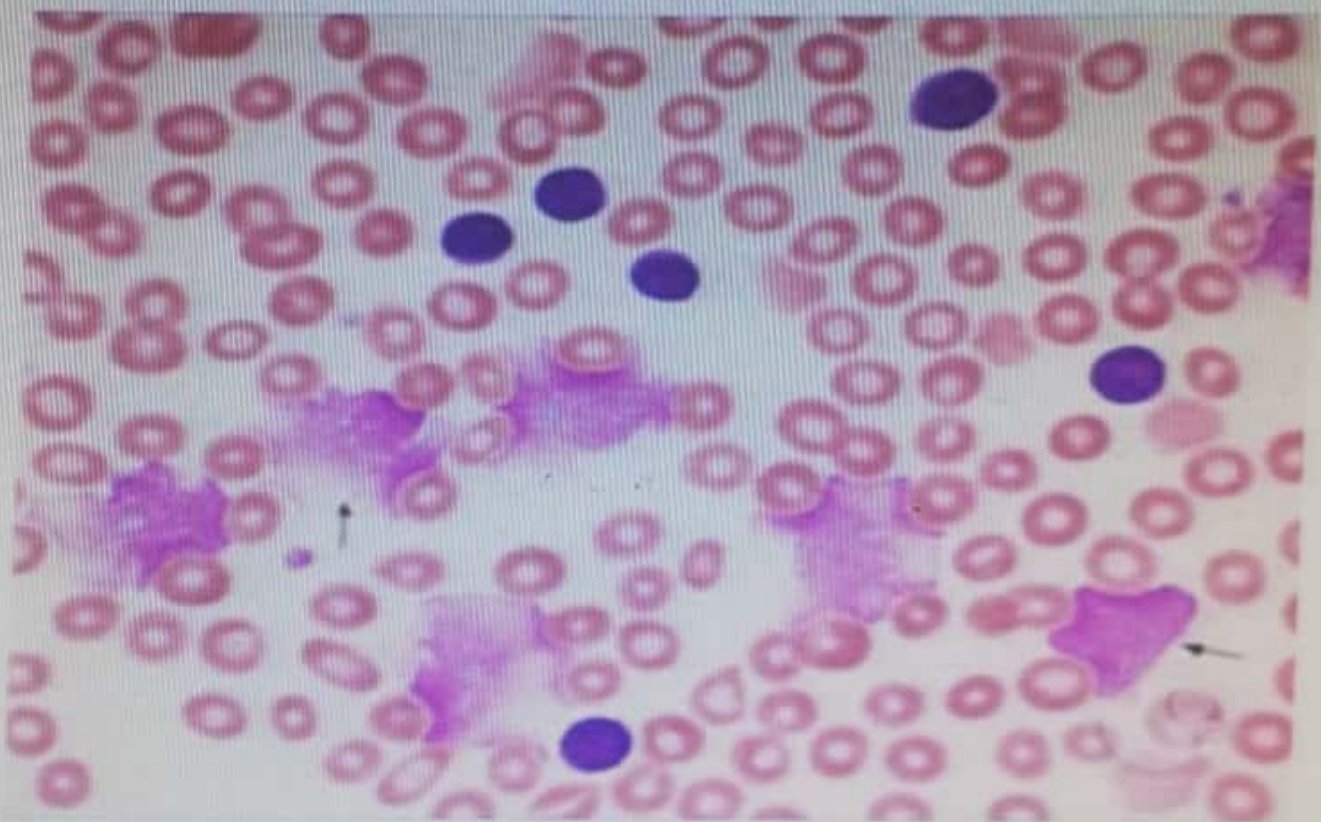
-Philadelphia



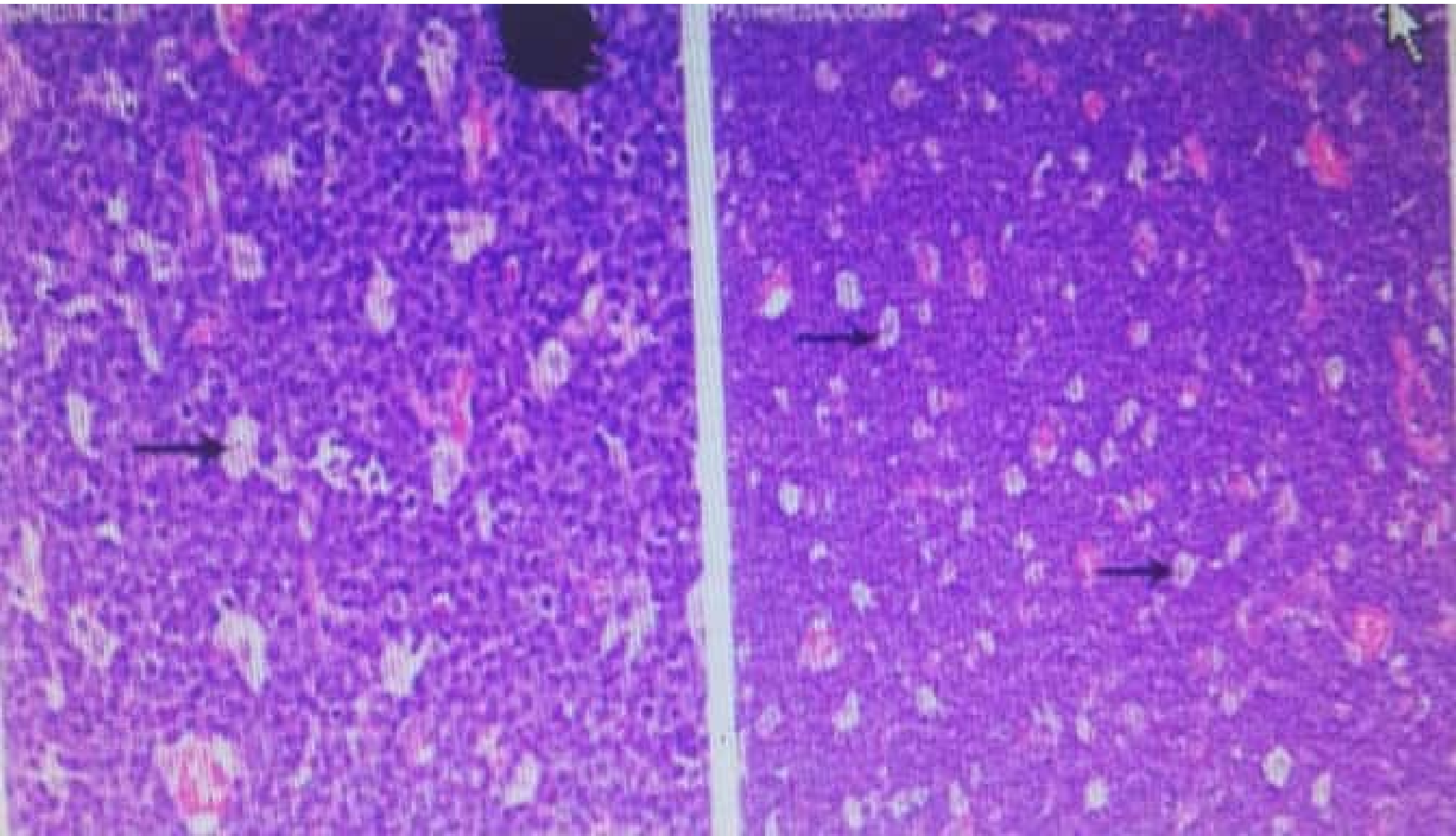
A 40 year old male presented with fever and splenomegaly. His Lab counts are Hb:9g/dl;WBC 165000;platelets:765000;Pro-myelocytes:8%; myelocytes 3% metamyelocytes 13%, neutrophils 37%, blast cells 3%, eosinophils 2%stabs.7%

- What is the diagnosis?
- Which chromosomal abnormality is consistently seen in this disorder?
- Which stain is used in preparation of this slide?

A 72 years old man presents with increasing fatigue. Physical examination reveals an elderly man in no apparent distress (NAD). He is found to have multiple enlarged, nontender lymph nodes along with an enlarged liver and spleen. Laboratory examination of his peripheral blood reveals a normocytic normochromic anemia, a slightly decreased platelet count, and a leukocyte count of 72,000 cells/ μ L.



1. Which of the following is the most likely diagnosis?
2. What are the other features of this disease?
3. What is the prognosis?



A 38 years old man presents with increasing weakness and is found to have a markedly elevated peripheral leukocyte count. Laboratory testing on peripheral blood finds a decreased leukocyte alkaline phosphatase (LAP) score, while chromosomal studies on a bone marrow aspirate in the presence of a Philadelphia chromosome. This abnormality refers to a characteristic chromosomal translocation.



1. What is the diagnosis?
2. What translocation is present?
3. Describe the peripheral smear picture.

A 22 year old woman presents with fever, weight loss, night sweats and painless enlargement of several supraclavicular lymph nodes. A biopsy from one of the enlarged lymph nodes is shown in the photomicrograph below. The binucleate giant cell with prominent acidophilic "owl-eye" nucleoli shown stains positively with both CD 15 and CD 30 immunoperoxidase stains. Also present are atypical mononuclear cells that are surrounded by clear spaces (lacunar cells).

1. What is the diagnosis?
2. Which cell is the malignant component?
3. Enlist its variants?



55 yer old male presented to OPD with a complain of tinitis, vertigo. On examination, his face and hands were piethoric. His labs showed Hb 22 g/c, Hct 55/l, MCV 90fl, MCH 30pg, RBC count $7 \times 10^{12}/l$, ESR 0. TLC $15 \times 10^9/l$, WBC 15x10<9/l, platelets 15x10<9/l. Please carefully examine the given photograph and answer the following questions.

What is the diagnosis?

Polycythemia

How will you confirm it?

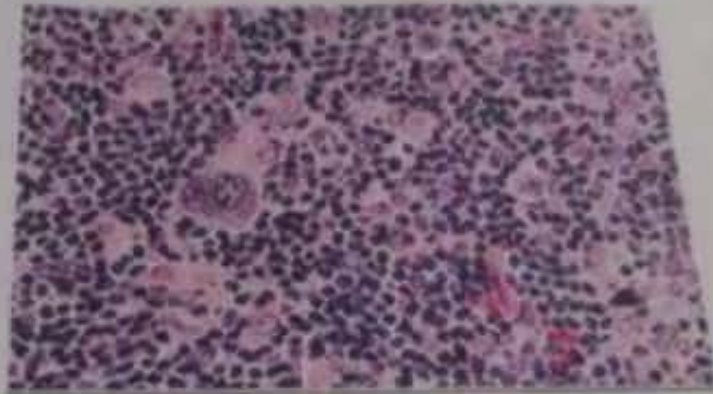
What would be the erythropoietin level?

123

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

OSPE TEST held on 14/11/2016

STATION # - 8



A 25 year old female presented in OPD with the complaints of fever, weight loss, and cervical lymphadenopathy. Her FBC was normal lymph node biopsy is given.

1. Which stain is used in this slide? (01)

2. What is your diagnosis?(1.5)

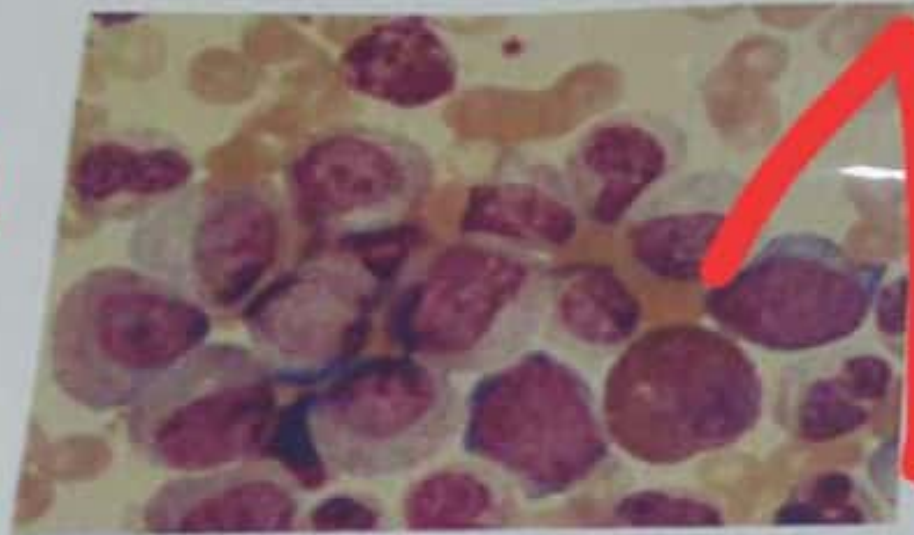
Hodgkin

3. Which cell is the malignant component?(1)

3- Reed Sternberg Cells

3/1

-CML
-pheladelphia
-sodan black



A 40 year old male presented with fever and splenomegaly. His Lab counts are
Hb:9g/dl;WBC 165000;platelets:765000;Pro-myelocytes:8%; myelocytes 3%
metamyelocytes 13%, neutrophils 37%, blast cells 3%, eosinophils 2%stabs.7%

- What is the diagnosis?
- Which chromosomal abnormality is consistently seen in this disorder?
- Which stain is used in preparation of this slide?

Iron deficiency anemia

DEPARTMENT OF PATHOLOGY AND CELL BIOLOGY

OSPE TEST held on 14/12/2016

STATION # - 8



A 45 year old female presented with excessive menstrual bleeding for the last one year. She looked pale, her Full blood picture showed Hb 8g/dl, MCH 19pg, MCv 60 fl, serum ferritin was reduced and peripheral smear was taken.

- Describe the RBC morphology in one line. (0.5)
- What type of anemia is it? (01)
- Name two other microcytic hypochromic anemias?(02)

DIC

Liver diseases
Chronic diseases
Malignancy
Blood transfusion reaction

DEPARTMENT OF PATHOLOGY, ANMC,

OSPE TEST held on 16/12/2016

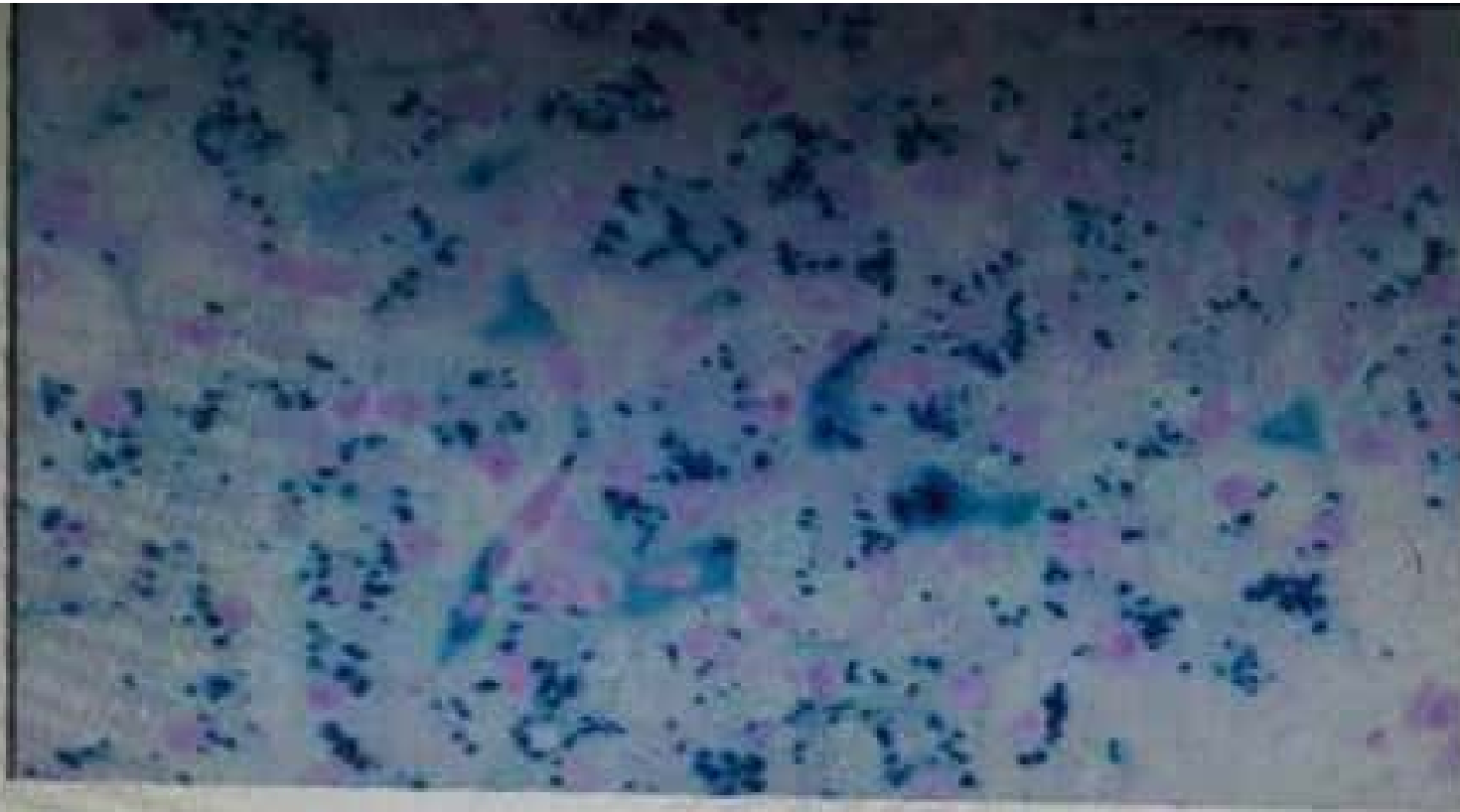
STATION

25 years old female presented with postpartum hemorrhage (exceeding > 2L) after giving still-birth. On examination, she was tachypenic with feeble pulse. Lab. Investigations show Hb : 05gmdL : WBCs 2000 cells/mL ; FDP: 30 mg/ml.

- a. What is the most probable diagnosis? (01)
- b. Enlist other causes of this pathology. (03)

[Redacted area]

15



A 17-year-old teenager diagnosed case of thalassemia major, was on repeated blood transfusions. He develops progressive severe ascites and tender hepatomegaly over a period of several months. Liver function tests are also slightly deranged.

1. What will be your diagnosis? 1
2. Name the gene involved in hereditary form of this disease. 1
3. What will be the stain used to highlight iron pigment? What will be the lab. investigations used to diagnose this case? 1

b- rouleux formation
Russel bodies
Flame cells

DEPARTMENT OF PATHOLOGY, AMMC, LAKHNE
OSPE TEST held on 16/11/2016
STATION B-7



A 50 year old female presented with high grade fever, weight loss and bone pains.
Radiological examination revealed sharply punched out lesions in skull.
Electrophoresis revealed M-band.

- a. What is the diagnosis? (0.5)
- b. What are the morphological features? (02)
- c. What is bence jones protein? (01)

Multiple myeloma

30

c) monoclonal globin proteins,
Present in urine or blood

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

OSPE TEST held on 14/12/2016

STATION # - 9

A mother with blood group 'O' has a child with the same blood group 'O'.

- What would be the blood group of this child's father. (01)
- Which blood group is universal donor. (01)
- Give complications after mis-matched transfusion. (02)

a...O

b...O+ve

islo cyles
urr cells

STATION # - 10

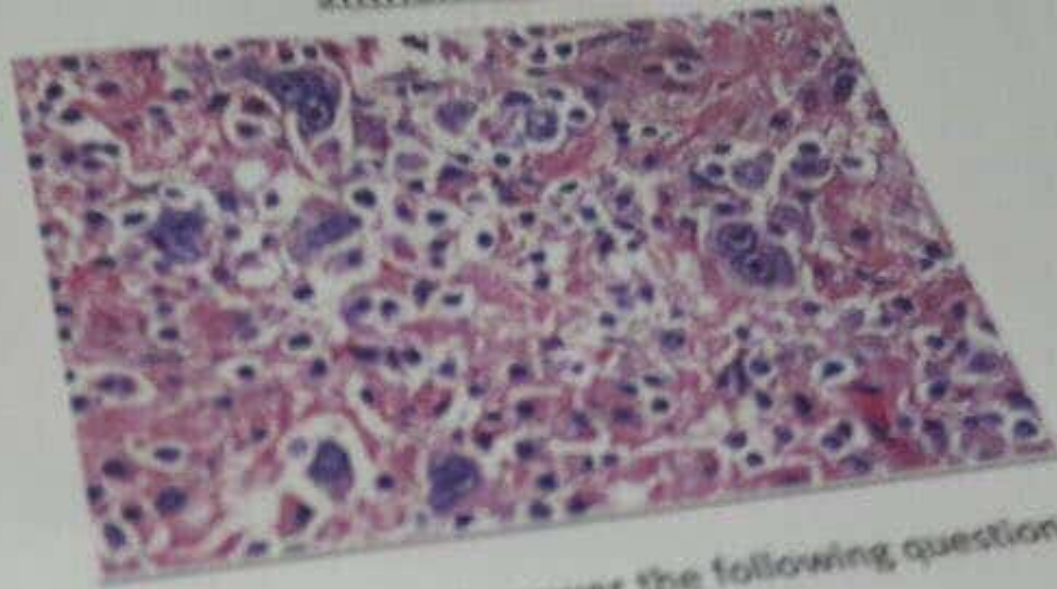


Carefully examine the given photograph and answer the following questions.

- Identify this lesion? (0.5)
- What are the identification points? (01)
- What are the laboratory findings of this lesion? (02)

D-dimers elevated
∴ Prolonged PT
Prolonged bleeding time

STATION II - 6



Carefully examine the slide and answer the following questions.

- a. What is the diagnosis?
- b. Which cell is the malignant component?
- c. What is the nature of lymphocyte?

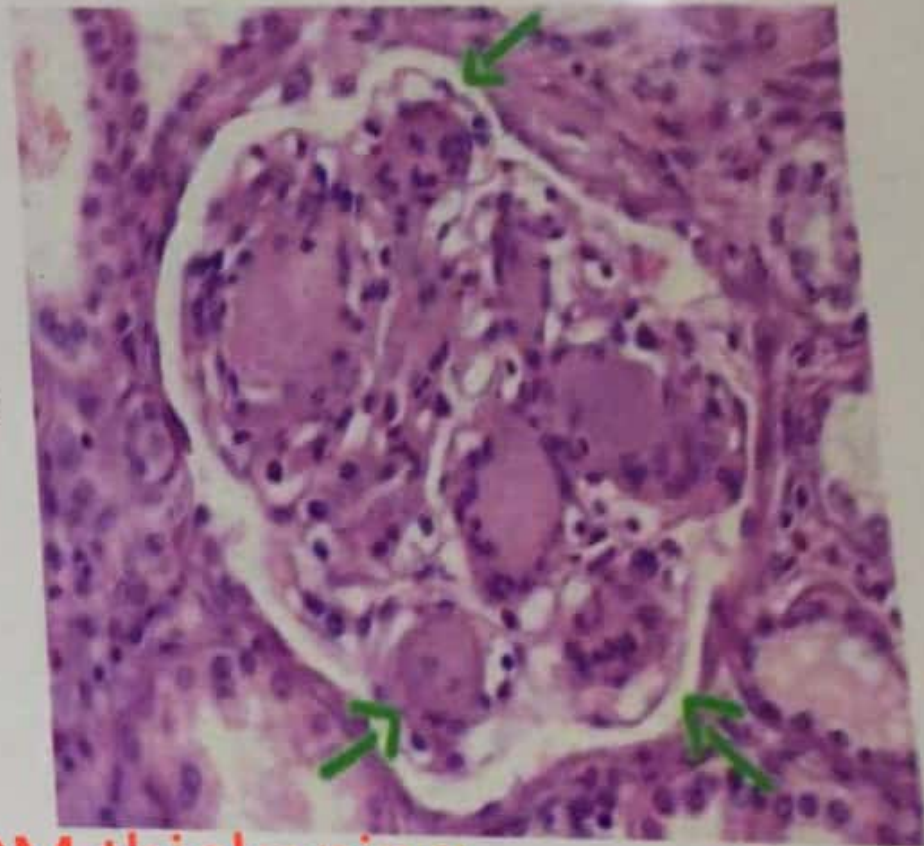
Hodjkin
lymphoma

1. diabetic nephropathy

SUBJECT:

A 55-year-old woman has had poorly controlled hyperglycemia for many years. She sees her physician after experiencing burning pain on urination for 3 days. Physical examination shows a 2-cm ulceration on the skin of the heel and reduced sensation in the lower extremities. Her visual acuity is 20/100 bilaterally. Urinalysis shows 1+ proteinuria; 2+ glucosuria; and no blood, ketones, or urobilinogen.

1. What is underlying chronic renal pathology in this patient?
2. What are its different types?



**2. capillary BGM thickening,
diffusial mesangial sclerosis,
nodular glomerulosclerosis**

A middle aged female with increased PTH and hypercalcemia shows a well circumscribed and encapsulated nodule in one of the parathyroid gland underwent parathyroid biopsy showing uniform appearing polygonal chief cells with centrally placed nuclei. No mitosis and no invasion is identified. The glands outside the *lesion* are normal in size.



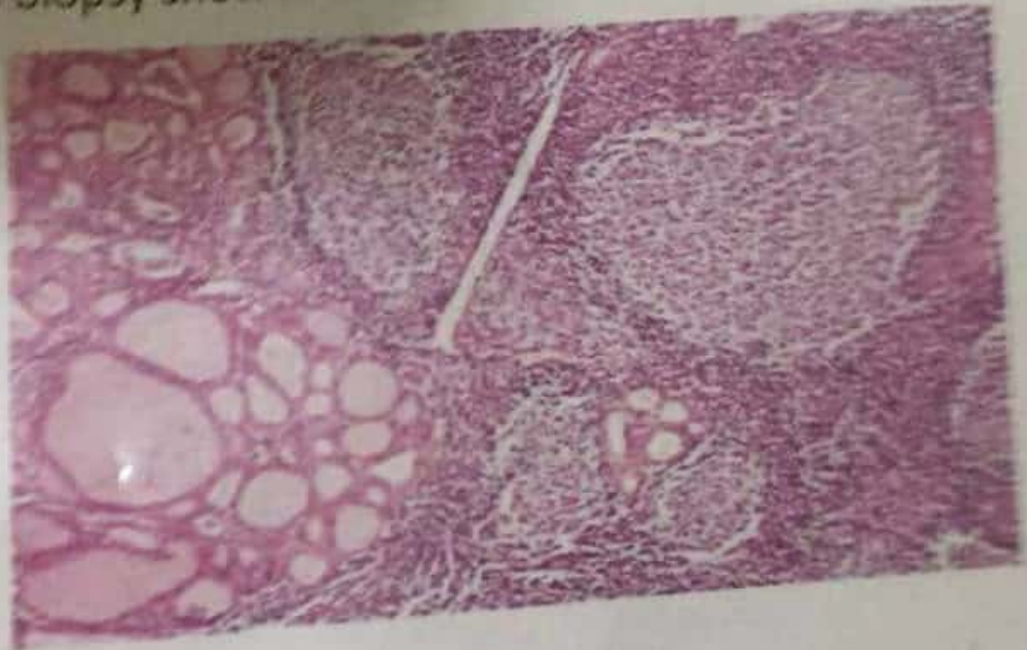
1. What are the three most common causes of primary

hyperparathyroidism?
2. In this case a low calcium level is the cause?

Parathyroid adenoma

- 1- adenoma
- Hyperplasia
- Carcinoma

A middle aged female with painless symmetric enlargement of thyroid gland, lab investigations show hypothyroidism and thyroid biopsy show intense mononuclear infiltration.



1. What is the diagnosis?
2. Give a brief pathogenesis of the condition.

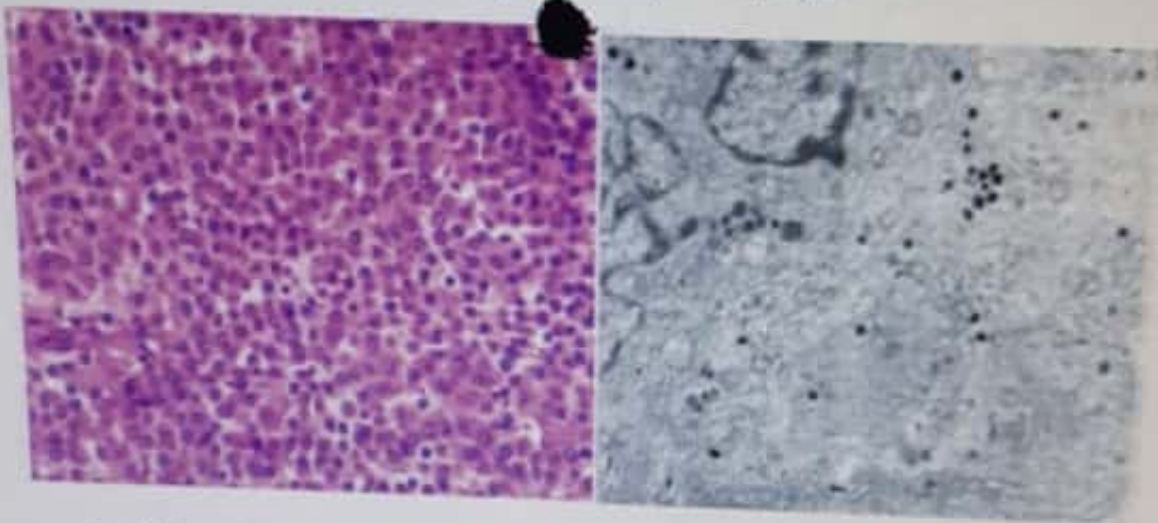
1. hashimoto thyroiditis

2. CD8+ cytotoxic T-cell mediated cell death

Cytokine-mediated cell death
(interferon gamma activates macrophages)

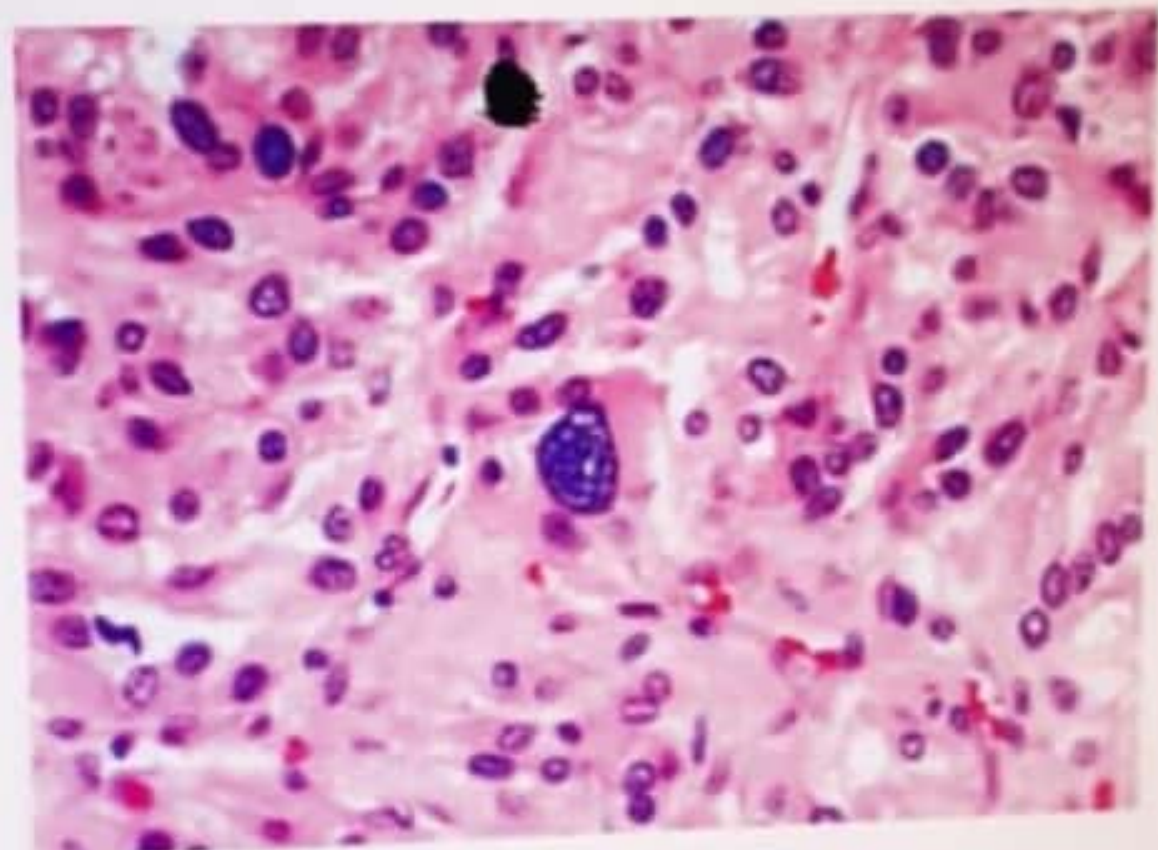
Antibody-dependent cell-mediated cytotoxicity

A 20 years old female with amenorrhea, galactorrhea, loss of libido and infertility is under diagnostic workup. She has also started to develop visual field abnormalities and elevated intracranial pressure. Her lab investigations show elevated prolactin levels. Below is given microscopic and electron microscopic features of pituitary biopsy.



1. What is the most likely diagnosis?
2. How would u differentiate this entity from non-neoplastic anterior pituitary parenchyma?

A 37 years old women experiences episodes of palpitations, tachycardia, tremors, diaphoresis, headache and hypertension over the past three months. Her lab investigations show increased urinary excretion of catecholamines and Vanillyl mandelic acid. The biopsy of adrenal medulla shows the following features.



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Enable Editing

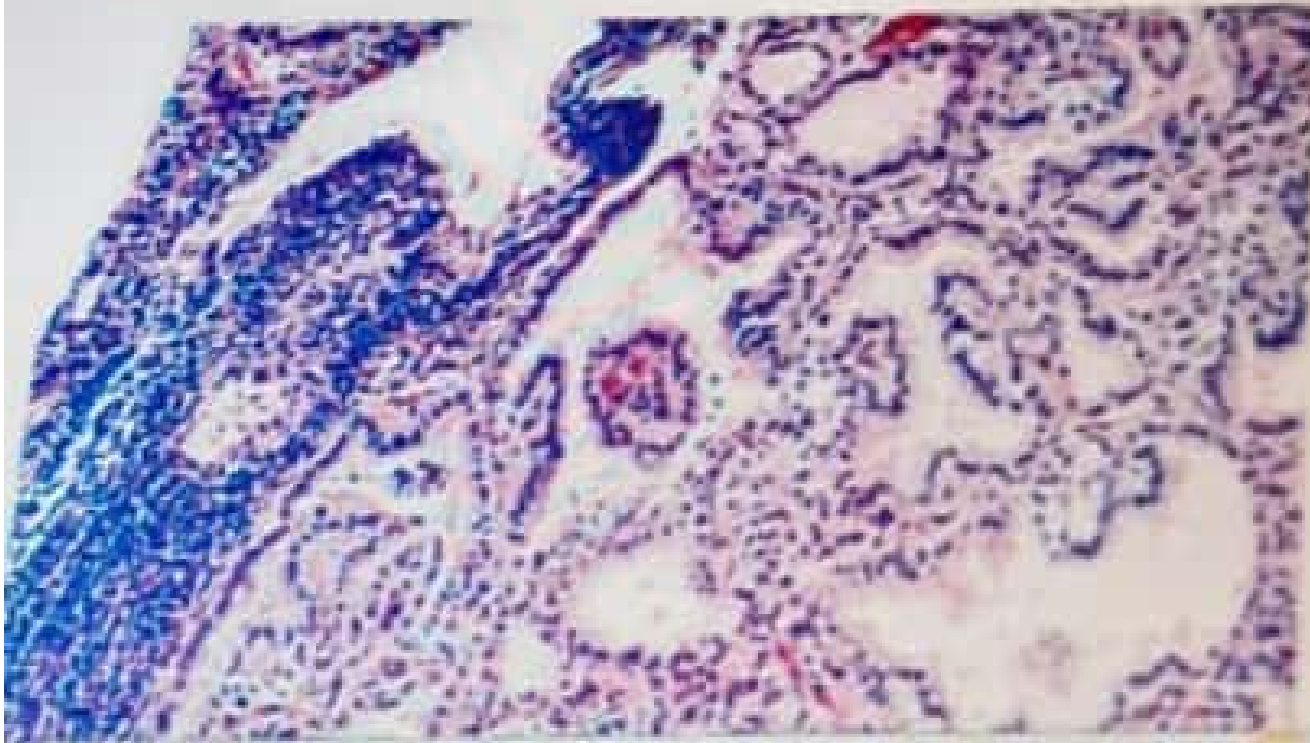
What is your diagnosis?



What is the characteristic morphologic pattern of this lesion?

What do you know about the rule of 10s?

30 years female presents with weight loss, diffuse enlargement of thyroid, exophthalmous and increased heart rate. Lab investigations shows hyperthyroidism and thyrotropin receptor antibodies in serum. thyroid biopsy shows hyperplatic thyroidfollicles with papillary infoldings and depleted colloid.



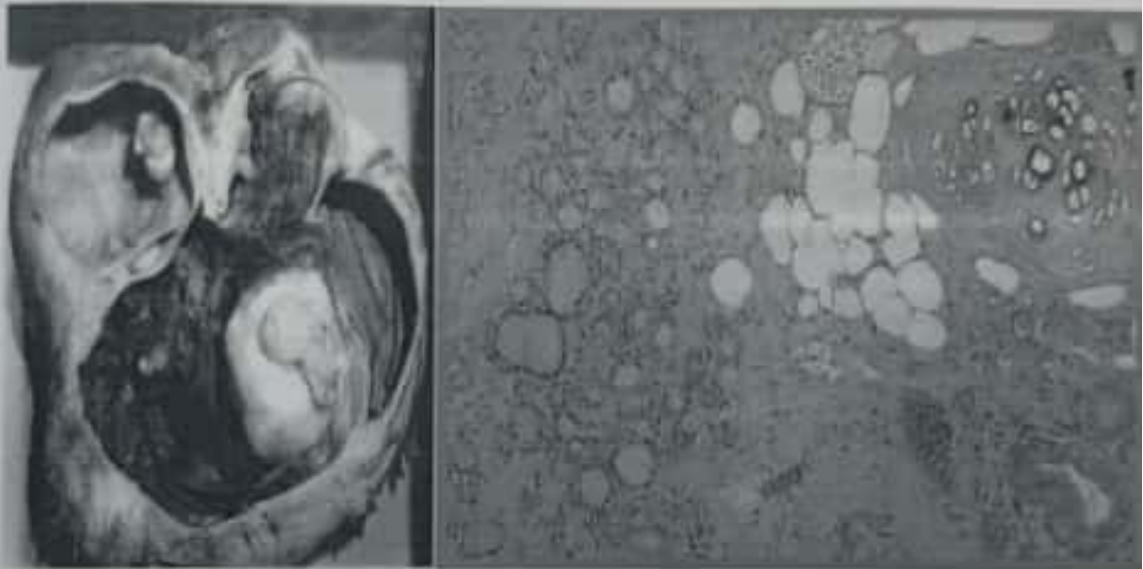
A 2 year boy presented with painless testicular mass, which is a typically bulky lesion with the following morphology. Eosinophilic hyaline-like globules are demonstrated in specimen by using immunocytochemical stains (AFP AND α -1 antitrypsin)



Figure 3: The histological evaluation of the specimen exhibited the Schiller-Duval body which represents the pathognomonic histological feature of yolk sac tumors.

1. What is your diagnosis?
2. What are three clinical stages of testicular tumors?
3. What is granulomatous orchitis ?
4. Name the congenital anomaly of testis.

An adult female was diagnosed as having a testicular mass which on gross examination was found to have hair and tooth impacted within the cystic cavity. The microscopic section is shown in the picture above

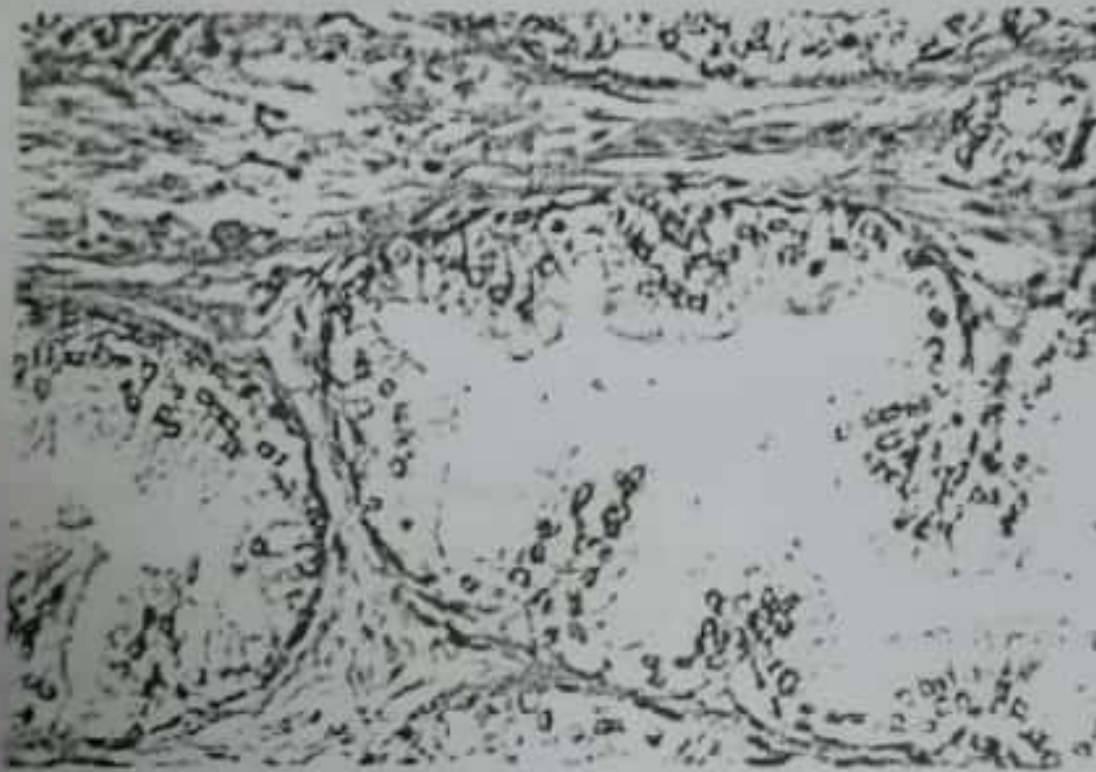


1. What is diagnosis?
2. Describe the morphology of above lesion.
3. What is "teratoma with malignant transformation"?
4. Classify TESTICULAR TUMORS.

5. Name the ^{Amie} congenital anomalies and Classify its Tumor.

SGD

A man of 65 years old have complaint of Hesitancy ,Urgency ,Frequency and Nocturia for which he was operated and histopathology of removed specimen is as below the image.



Q-1 What is mostlikely diagnosis

Q-2 What are others histological features of (BPH) Benign Prostatic Hyperplasia ?

Q-3 what is common lobe involvec in this lesion ?

Q-4 What are facilities available to diagnose the this lesion

SGD

40 Years male with family history of allergy having complaint of dyspnea with prolong expiration and wheezing. In CBC, there is elevated eosinophilic count.

- a) What is most likely diagnosis?
- b) What are churchman spirals?
- c) What are main types of Asthma?

SGD

40 Years male with family history of allergy having complaint of dyspnea with prolong expiration and wheezing. In CBC, there is elevated eosinophilic count.

- a) What is most likely diagnosis?
- b) What are churchman spirals?
- c) What are main types of Asthma?

SGD-

A 10-year-old boy, to be a normal term baby, his neonatal course was complicated by the development of meconium ileus. Throughout childhood he has experienced multiple increasingly severe bouts of chest infections often with *Pseudomonas Aeruginosa* and productive cough with foul smelling. Based upon these findings:-

- a) He is at greatest risk for development of which Respiratory Disease?
- b) What are main histological changes occurring in lung during disease process?
- c) What are common complications?



Figure 15-20 High-power detail of an asbestos body, revealing the typical beading and knobbed ends (arrow).

stimulate the release of proinflammatory factors and fibrogenic mediators. The initial injury occurs at bifurcations of small airways and ducts, where asbestos fibers end, penetrate and are directly toxic to pulmonary parenchymal cells. Macrophages, both alveolar and interstitial, attempt to ingest and clear the fibers. Long-term deposition of fibers and persistent release of mediators (e.g., reactive oxygen species, proteases, cytokines, and growth factors) eventually lead to generalized interstitial pulmonary

SGD

Carefully examine the given specimen (Photograph) and answer the following questions



1. Identify the lesion of lung.
2. What organism is responsible of this lesion?
3. Name four classical stages of this lesion.

Q 9) A 75-year-old man has experienced increasing dyspnea for the past 4 years. He is afebrile, with a pulse of 70/min, respiratory rate 20/min, and blood pressure 120/75 mm Hg. A chest radiograph shows increased interstitial markings, but no effusions. The transbronchial biopsy shows the microscopic appearance with Prussian blue stain. The image of which in as below. Which of the following is the most likely diagnosis?



- What is your diagnosis?
- Name other pathologies associated with its enclosure.
- Name its 2 geometric forms.
- What are asbestos bodies?

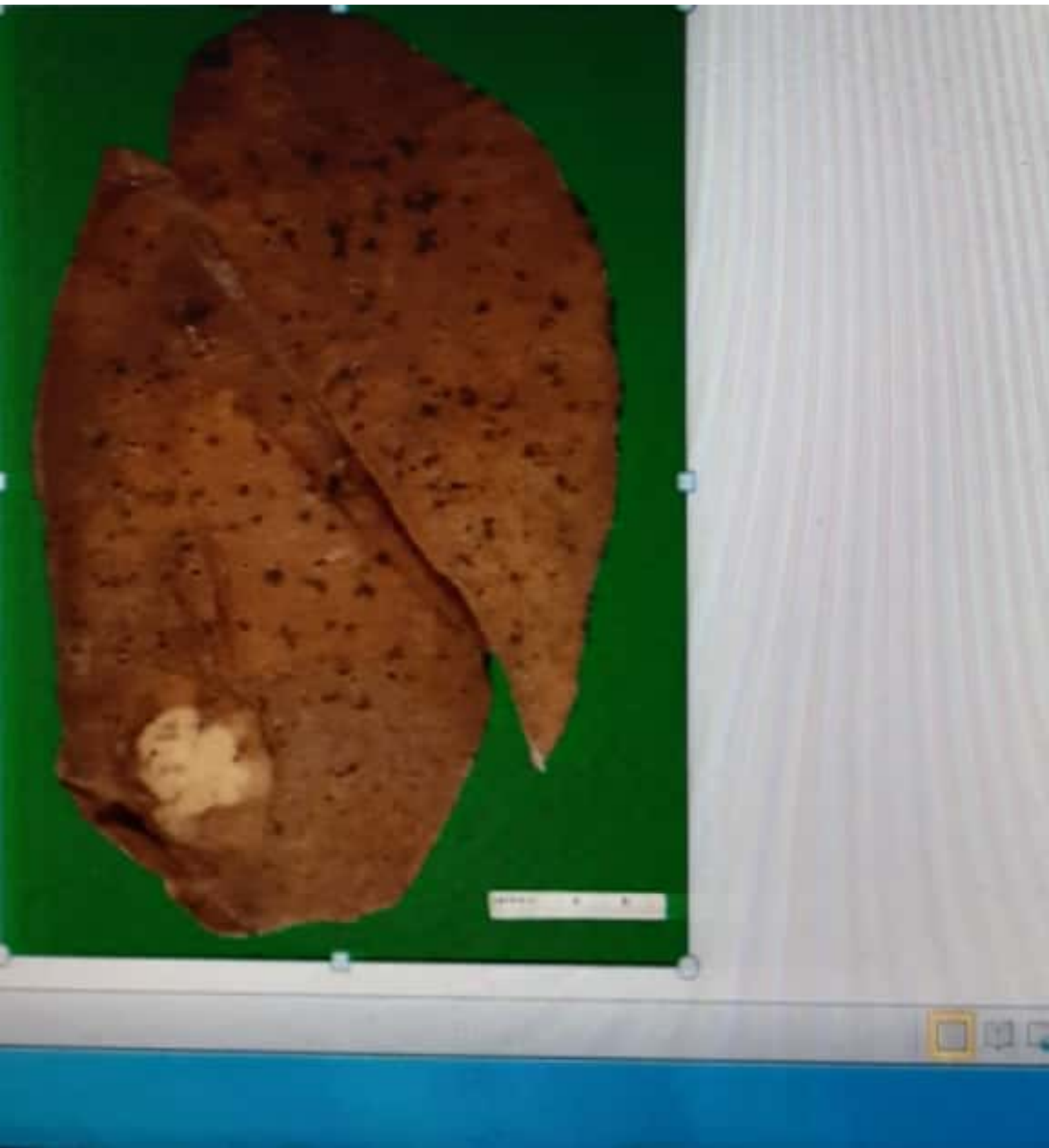


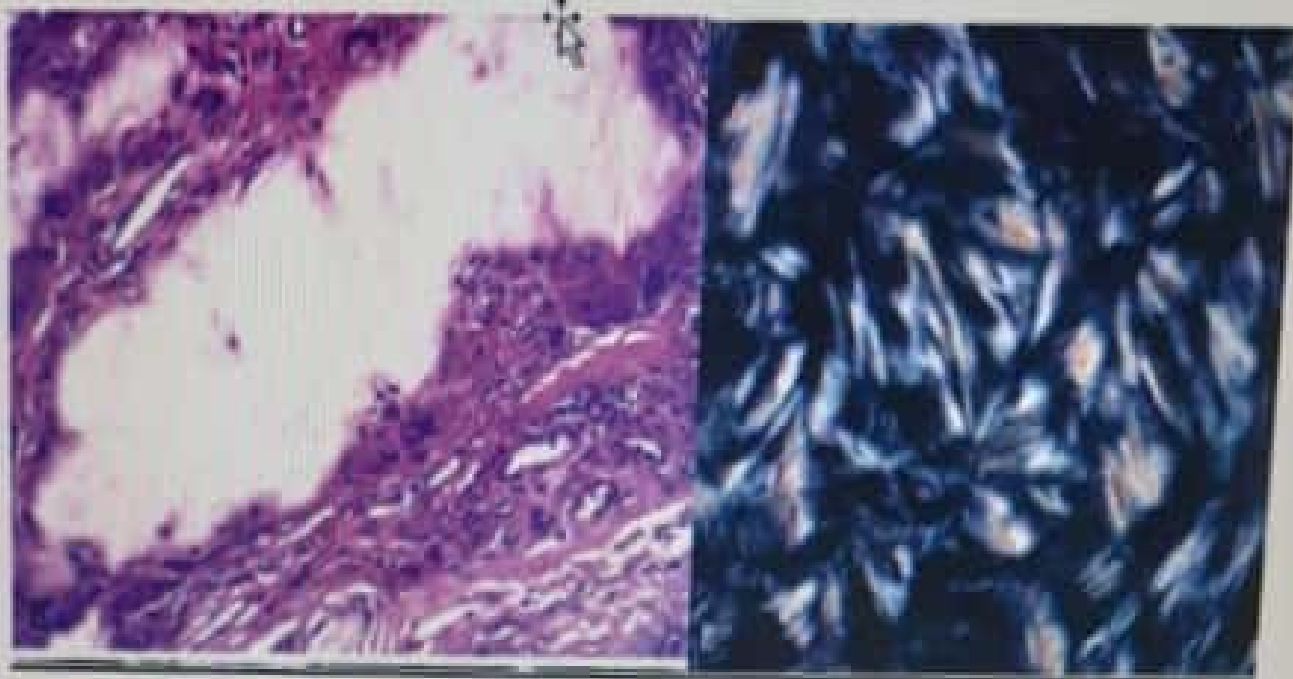
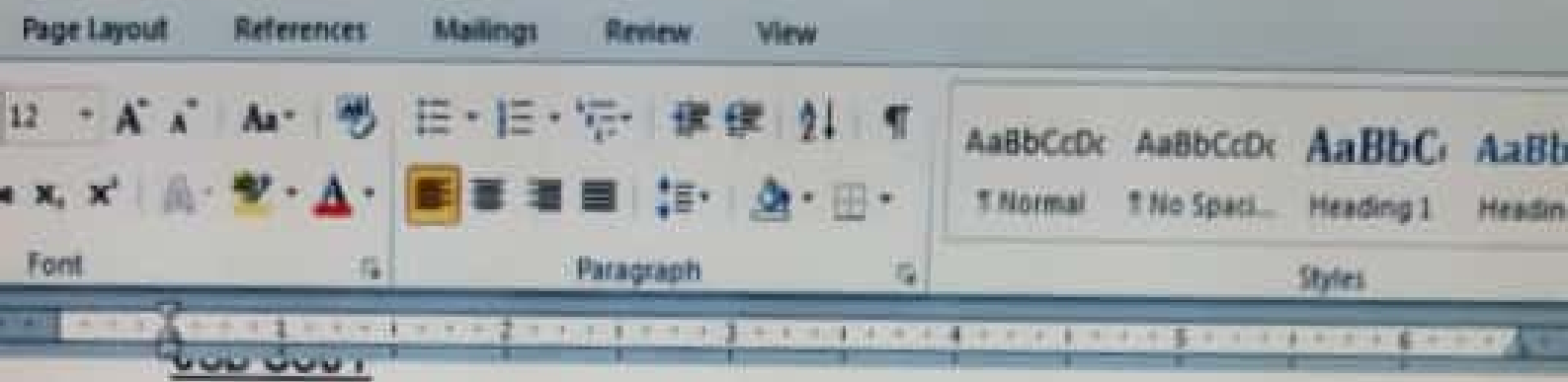
Carefully examine the given specimen (Photograph) and answer the following questions:



1. Identify the lesion of lung.
2. What organism is responsible of this lesion?
3. Name four classical stages of this lesion.

1. Lobar pneumonia
2. Pneumococcus
 - a. (i) Congestion
 - b. Red hepatizationii
 - c. Gray hepatizationiv
 - d. Resolution.

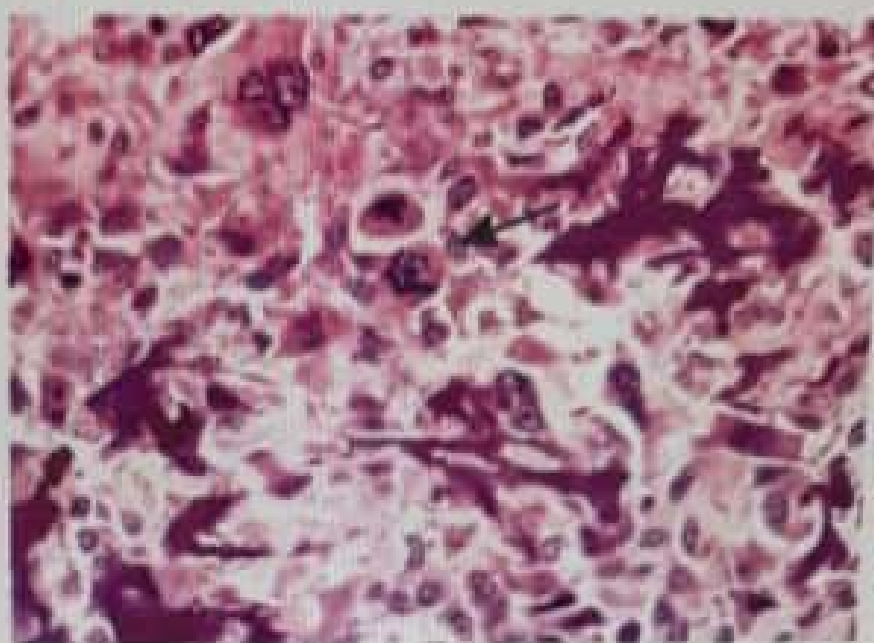
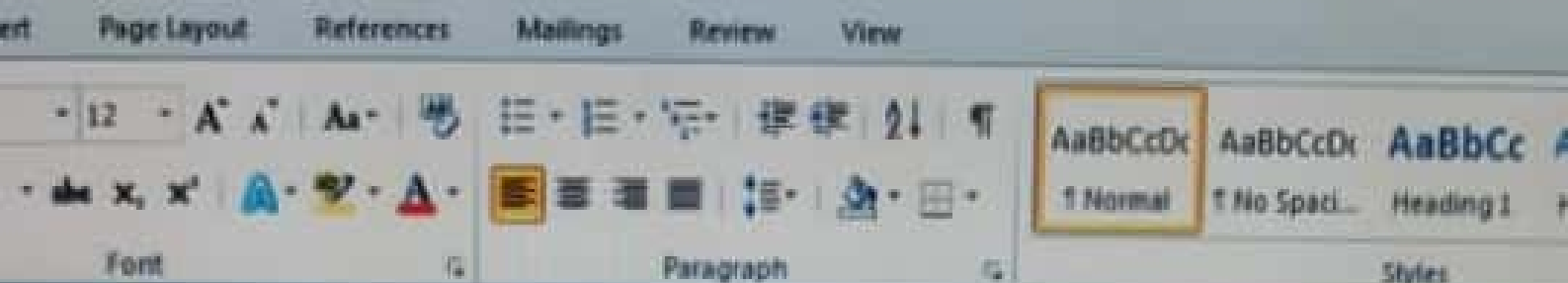




A 30 years old develops excruciating pain in the first metatarsophalangeal joint
The pain was associated with localized hyperemia, warmth and tenderness
Tophi are also identified and serum uric acid levels are markedly raised

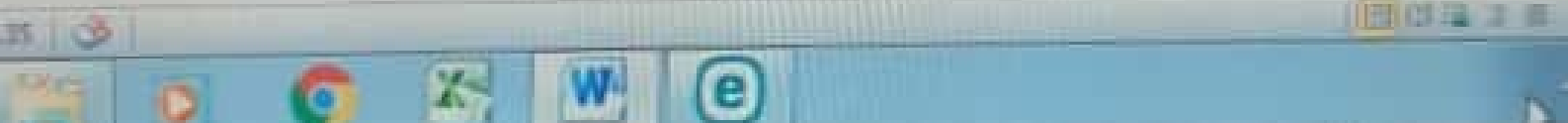
1. What is the most likely diagnosis?
2. Discuss the morphology of tophus
3. What are the lab investigations that can confirm the diagnosis?





A young man of 20 years has pain and swelling in his left knee joint which persists even with painkiller medicine. X-Ray of knee joint reveals a lifting of Periosteum and speculated Sun-burst Lesion pattern and Cod-mans triangle in the distal end of femur.

- Which is most likely diagnosis?
- Give its morphology
- Enumerate the other common sites involved by this lesion
- Classify the bone tumors.

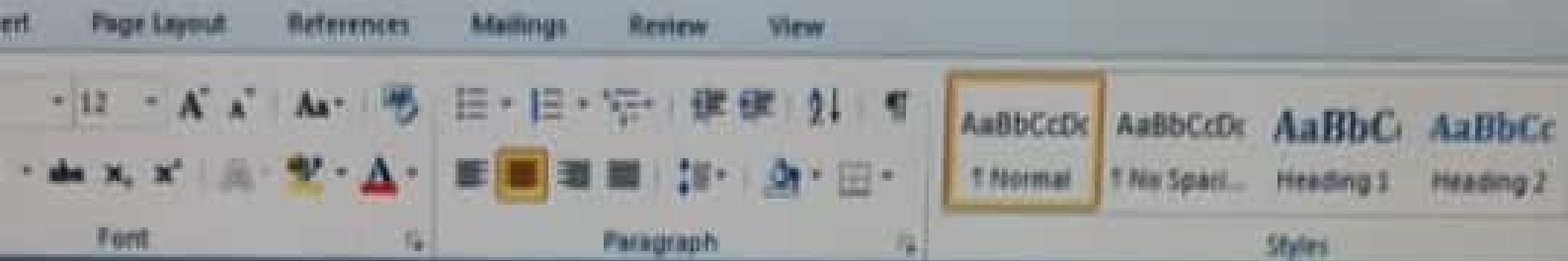


SGD-III

A young boy of 11 years presented with painful enlarging mass in the diaphysis of his left femur and imaging studies showed destructive lytic and ONION -SKIN Lesion of tumor which has infiltrative margins and extending into surrounded soft tissue.

- A. What is the diagnosis of this lesion?
- B. What is pathogenesis of this lesion?

1



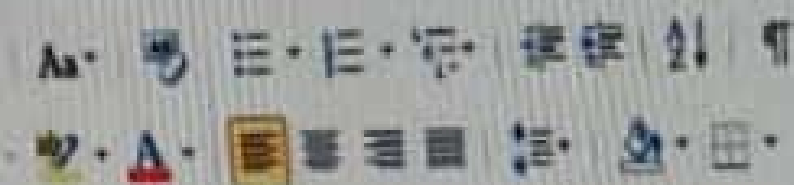
SGD -SKELETAL SYSTEM

I

A young man of 20 years has pain and swelling in his left knee joint which persists even with painkiller medicine. X-Ray of knee joint reveals a lifting of Periosteum and speculated Sun-burst Lesion pattern and Cod-mans triangle in the distal end of femur.

- A. Which is most likely diagnosis?
- B. Enumerate the other common sites involved by this lesion.
- C. Classify the bone tumors.





AaBbCcDd

AaBbCcDd

AaBbCc

AaBbCc

Normal

No Spacing

Heading 1

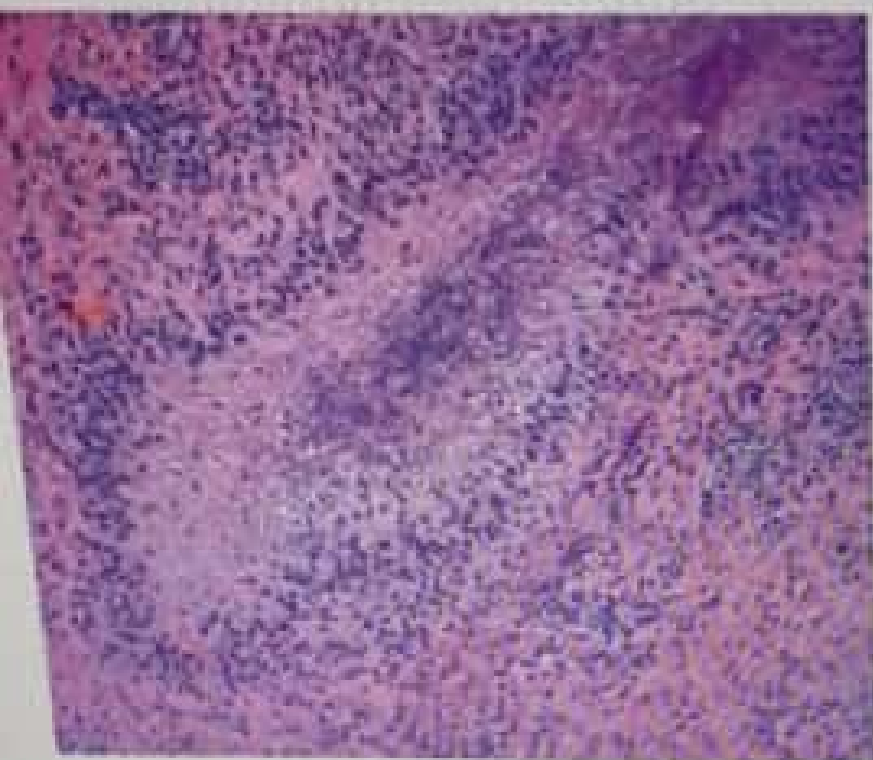
Heading 2

Paragraph

Styles

Rheumatoid Arthritis & Osteoarthritis

A 40-year-old patient presented with morning exaggeration of symmetric stiffness and swelling of her small joints of hands with fatigue, malaise and myalgia since a long time. Later on she also developed subcutaneous nodules on the ulnar surface of forearm, elbows, and occiput and lumbosacral area. The biopsy from the nodules showed central necrosis rimmed by palisaded histiocytes. Investigations showed raised ESR, CRP, RA factor and anti CCP antibodies. X-Rays showed joint effusions and erosions.





I

SGD -SKELETAL SYSTEM

A young man of 20 years has pain and swelling in his left knee joint which persists even with painkiller medicine. X-Ray of knee joint reveals a lifting of Periosteum and speculated Sun-burst Lesion pattern and Cod-mans triangle in the distal end of femur

- Which is most likely diagnosis?
- Enumerate the other common sites involved by this lesion
- Classify the bone tumors

5001 _____

A 54-year-old female presented with feeling of heaviness in head and headache that worsens during night time. She also reported multiple episodes of tonic-clonic seizures. CT scan revealed a 5-cm mass in the Left cerebral hemisphere. On histological evaluation, geographical necrosis with Pseudo-palisading tumor cells were seen. The tumor was GFAP positive.



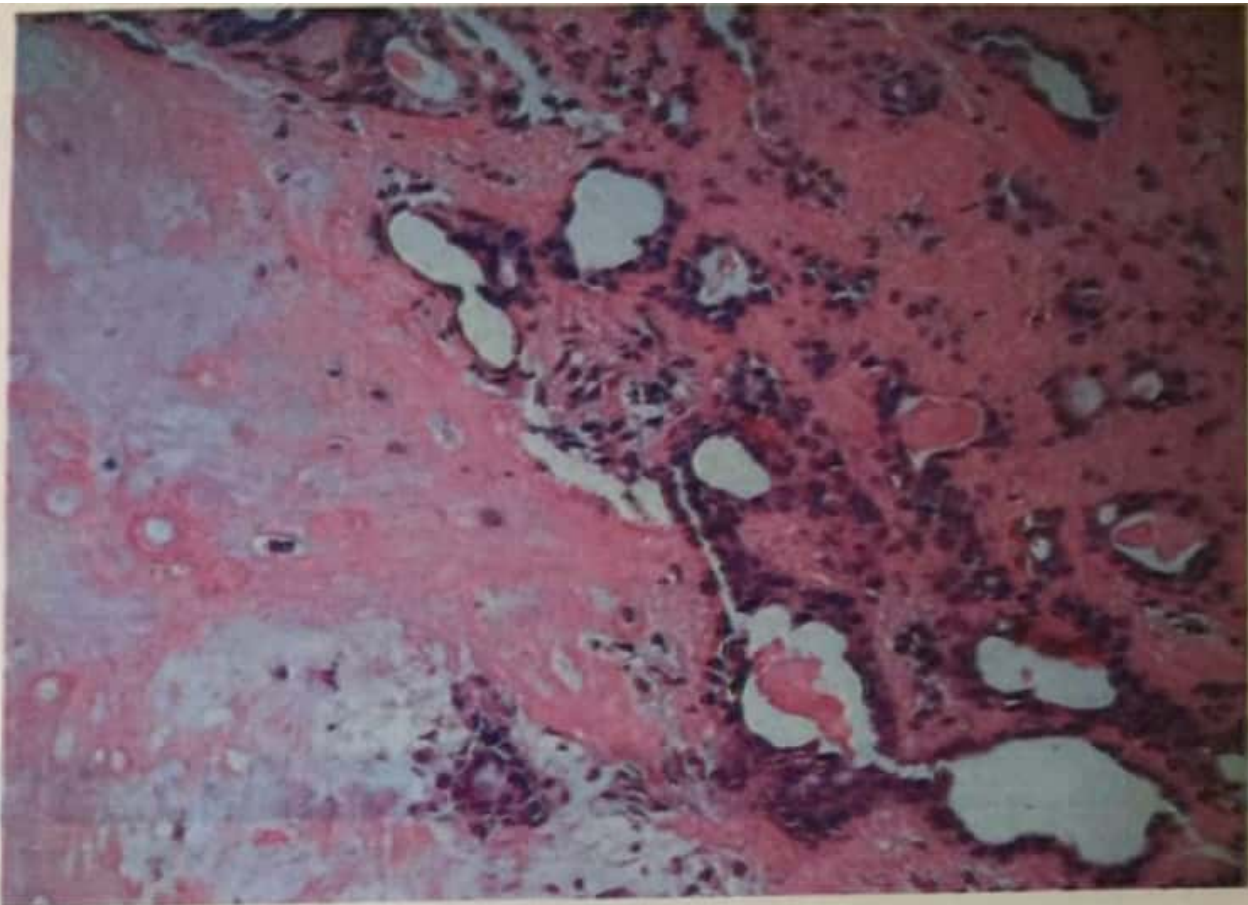
Glyoblastoma

- 1- What is the most likely diagnosis?
- 2- What is the grade of this tumor?
- 3- GFAP stands for?????

2- Grade 4

61

3- Gliofibril acid protein



1. pleomorphic adenoma

A middle aged man presents with a slow growing mass at the side of his jaw.
The mass is firm but painless.

Biopsy is done to make a final diagnosis

A) What is the diagnosis?

(01)

B) Enlist 3 tumors of salivary glands

warthin tumor
oncocytoma
basal cell adenoma
canalicular adenoma
ductal papilloma

(03)
mucoepidermoid CA
adenoid cystic CA
acinic cell CA
adenocarcinoma
malignant mixed tumor
SCC

A 30 year old man presented in emergency department with history of fever, malaise and skin lesions. Echocardiography revealed a mass in heart.

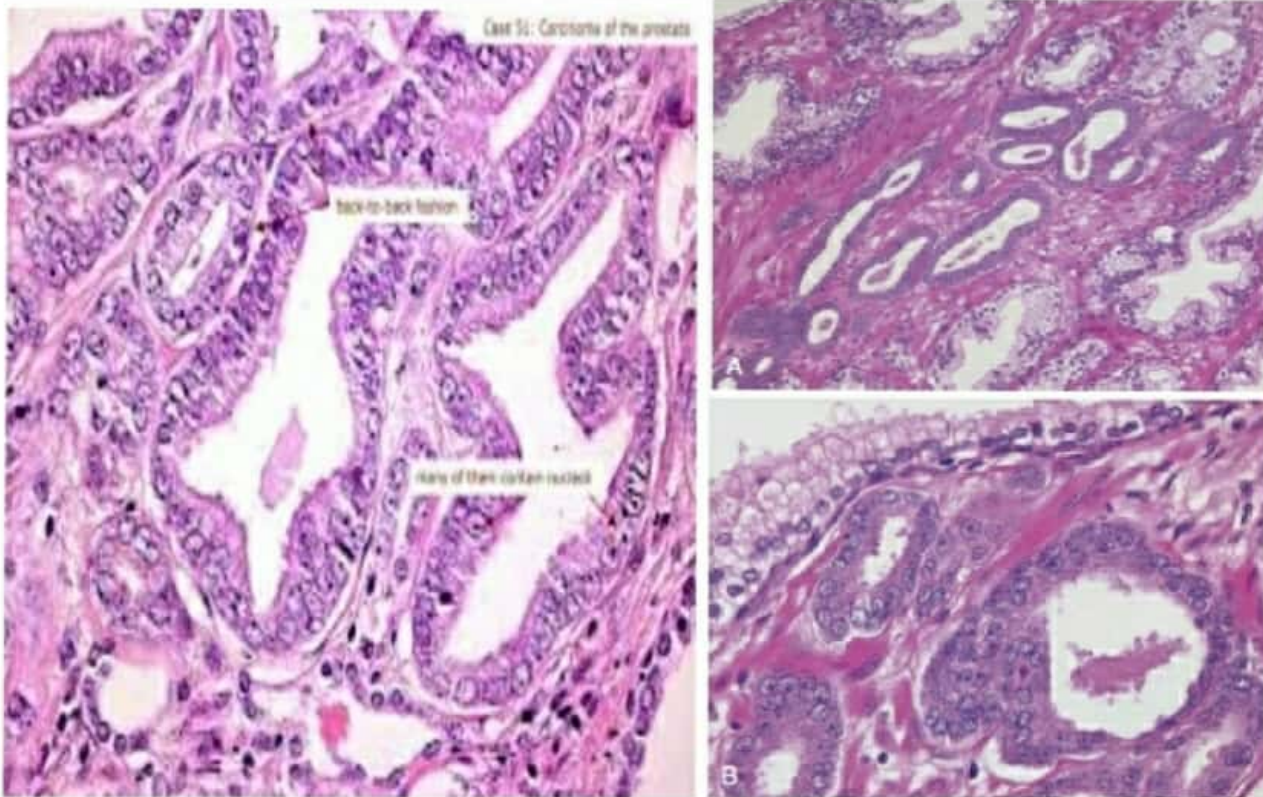
Below is the gross and microscopic picture of the lesion. Carefully examine the picture and answer the following questions.



- a- What is the most likely diagnosis. 1
- b- Is this a benign or malignant lesion 0.5
- c- What is the favoured site of this lesion. 0.5
- d- Which syndrome is associated with these lesions. 1

Sad

SGD II



prostatic adenocarcinoma

A 70-year-old healthy man has a firm nodule palpable in the prostate via digital rectal examination. Prostate biopsies are performed and on microscopic examination show small, crowded glands containing cells with prominent nucleoli within the nuclei. (as shown in above image).

A) What is most likely diagnosis?

B) What is significance of PSA?

C) what is Gleason score?

5 grades based on glandular pattern of diff - G1 (well diff tumor + uniform, round neoplastic glands in well-circ nodules) to G5 (no gland diff)

values above 2.5ng are abnormal
PSA density = serum PSA / PG vol
PSA velocity = rate of change of PSA over time [0.75ng/ml/yr distinguishes b/w men w or w/o prostate CA]

abscess
5% cases

DEPARTMENT OF PATHOLOGY
OSPE TEST held on 24/11/2019
STATION 1

3. extension of infection into pleural cavity, hemorrhage, brain abscess, meningitis from septic emboli, secondary amyloidosis



- 3-a. What is the pathology seen in this histological section from lung? (0.5)
- b. Give the cardinal microscopic feature of this picture. (0.5)
- c. What is the incidence of underlying carcinoma in old patients with lung abscess? (0.5)
- d. Write down complications of lung abscess. (1.5)

Topic renal pathology

Renal cell carcinoma.

A 5 year old boy presented with abdominal mass. Ultrasonography revealed a mass attached to upper pole of right kidney.



Q-1 what is the diagnosis

Describe its gross appearance

What is the prognosis of lesion

RCC

bright yellow due to lipid, areas of gray white necrosis, foci of hemorrhage

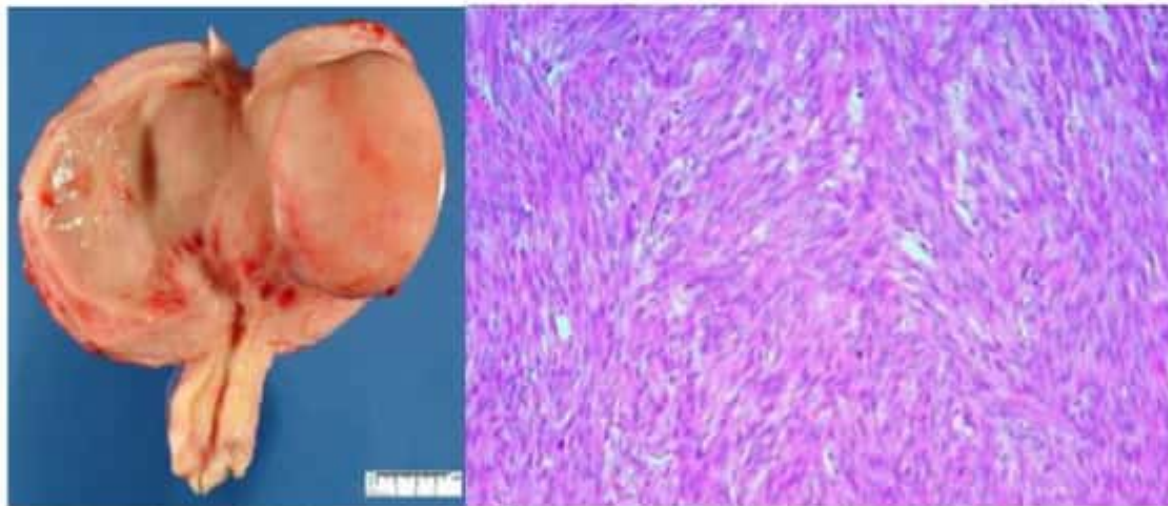
5yr survival 70%

95% in absence of metastases

60% with renal vein invasion

SGD (leiomyoma)

A 42 year old woman has complaints of heavy menstrual periods that last for several days. This has been occurring for the past three months and has been associated with pain and fatigue. Physical examination reveals an enlarged uterus with multiple palpable masses. Lab tests shows her Hb level is 11.3g/dl and haematocrit is 33%.



1. What is the most likely diagnosis?
2. Enumerate the sites of involvement of this tumor.
3. How does the size of this neoplasm change under the hormonal influences?
4. Give the microscopic appearance of this neoplasm.
5. Name its variants.
6. What is the name of its malignant counterpart?
7. How are leiomyomas distinguished from leiomyosarcomas and what is the importance of mitotic count.

SGD

STATION:

A 24-year-old man is awakened at night because of severe lower abdominal pain that radiates to the groin. The pain is very intense and comes in waves. The next morning, he notices blood in his urine. He has no underlying illnesses and has been healthy all his life. On physical examination, he is afebrile and has a blood pressure of 110/70 mm Hg. Urinalysis shows a pH of 7; specific gravity of 1.020; and no protein, glucose, ketones, or nitrite. The patient is advised to drink more water.



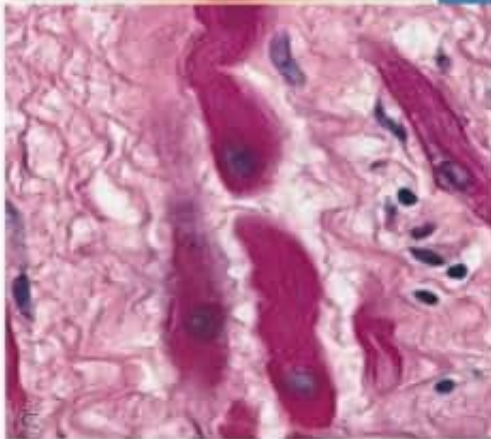
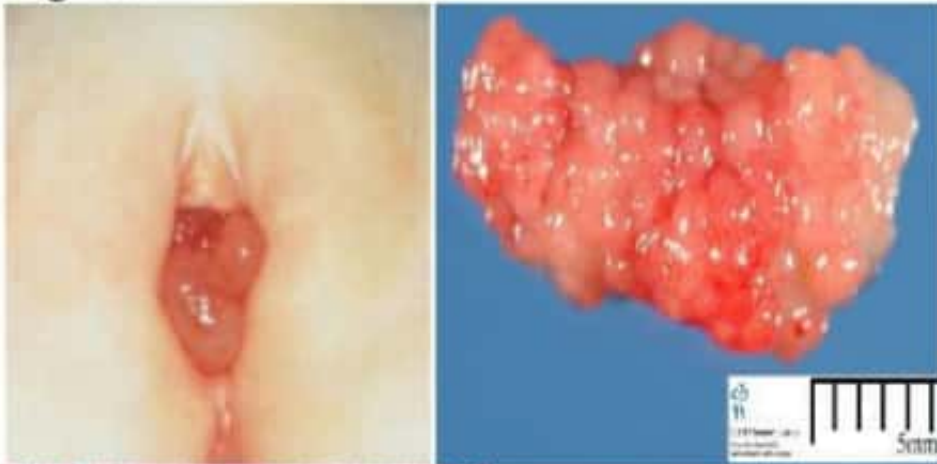
1. What is the most likely diagnosis?
2. Enumerate different types of renal stones.

1. urolithiasis (renal calculi/stones)

2. calcium oxalate and phosphate, struvite (magnesium ammonium phosphate), uric acid stones, cystine, others

SGD 2 Diseases of Vagina (SARCOMA BOTRYOIDES)

A two year old girl presented with a ten day history of a mass protruding from the vagina. Examination revealed a 5 cm purple mass at introitus. Examination under anaesthesia revealed a polypoid mass resembling a bunch of grapes arising from upper one third of the vagina.



SGD

1. What is the diagnosis?
2. Which age group is most commonly affected by the tumor?
3. What is the microscopic appearance of the tumor cells?
4. What is the mechanism of invasion of this tumor and prognosis?
5. What is VIN?
6. What is the difference between classic and differentiated VIN?



A 30-year-old man has enlargement of the left testis with a palpable left inguinal lymph node. An ultrasound reveals a 4 cm solid mass within the body of the left testis. Laboratory findings included a serum beta-HCG of 5 IU/L and alpha-fetoprotein of 2 ng /mL. The left testis is removed and on sectioning reveals a firm, lobulated light tan mass without hemorrhage or necrosis. (as shown in the figure.)

- A) - What is most likely diagnosis?
- B) -What are its two types?
- C) - What are tumor markers for this lesion?

Seminoma

9

2.classic,anaplastic, spermatocytic
3. OCT 3/4, NANOG, KIT, PLAP

Identify the lesions

Phylodes tumor

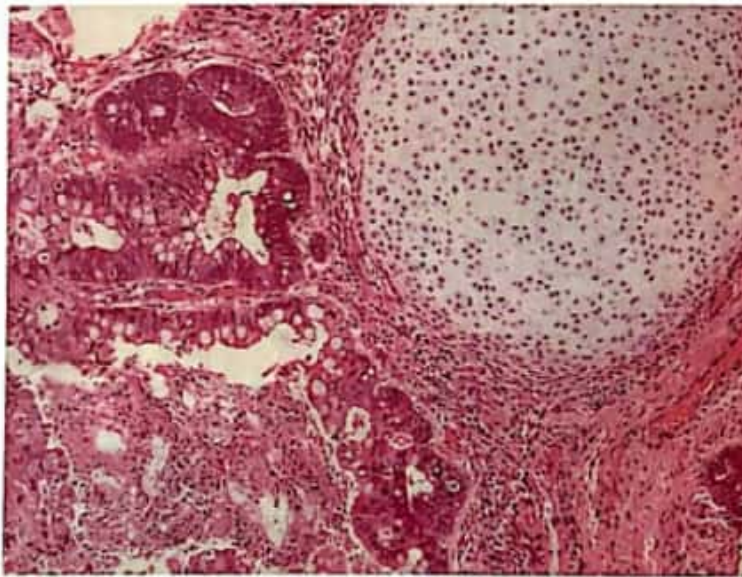


GERM CELL TUMORS

- seminomatous (classic, anaplastic, spermatocytic)
- non seminomatous embryonal CA, yolk sac tumor, chorioCA, teratoma

SEX CORD STROMAL TUMORS

- leydig cell tumor
- Sertoli cell tumor
- granulosa cell tumor
- fibroma thecoma stromal tumor
- gonadoblastoma
- mixed form



A 20 year old boy presented with testicular mass.

c- Identify the components 1

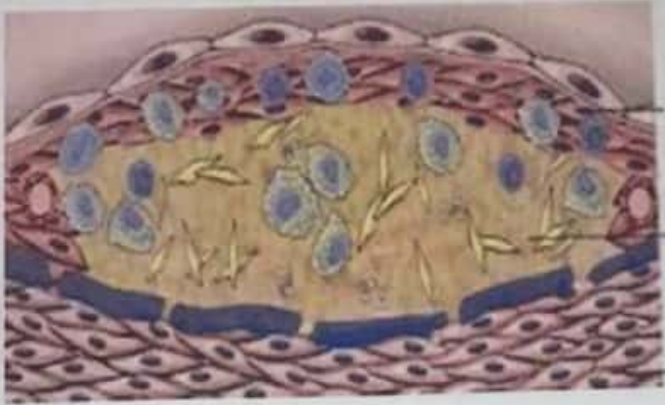
d- Give classification of testicular tumours 2

c: what histological features would you expect to see to call it is malignant? (1)

immature teratoma are malignant - tissues resemble embryonal / immature fetal tissue

Scanned with CamScanner

immature neuroepithelium, cartilage, bone, muscle, other elements

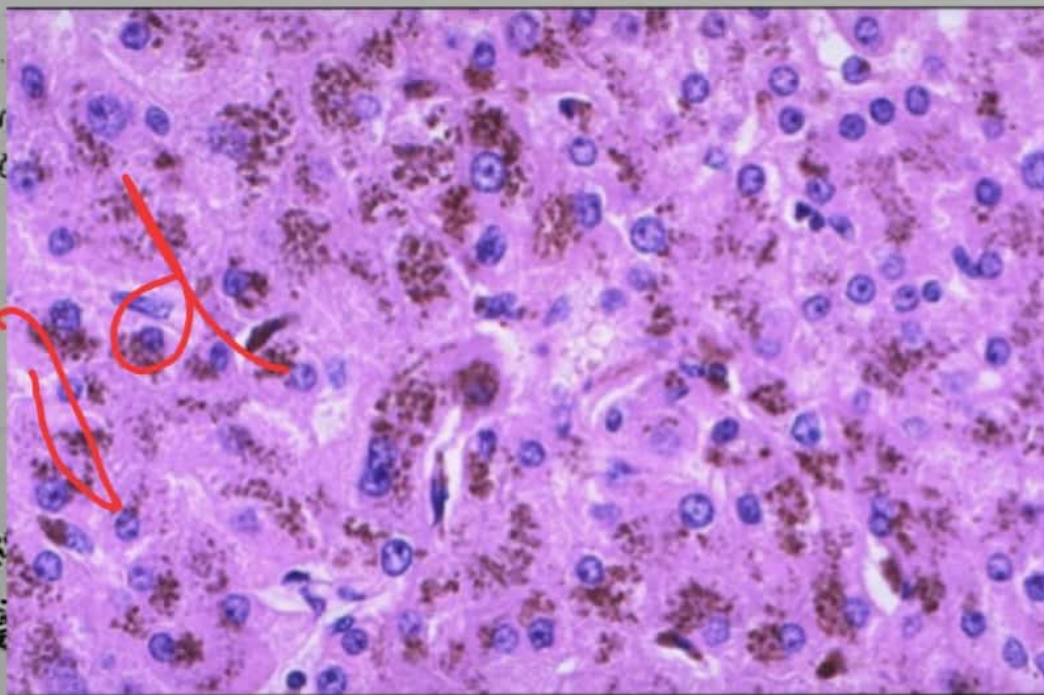


- a. What is the process known as ? 1
- b. What type of arteries are the main target of this lesion? 1
- c. Name the arteries it most commonly involves? 1

1. atherosclerosis
2. medium and large arteries
3. lower abdominal aorta, coronary arteries, popliteal arteries, ICA, vessels of circle of willis

Atherosclerosis

A 40 years old male diagnosed case of diabetes mellitus, arthritis and cardiomyopathy has developed right hypochondrial pain and skin pigmentation for the last few weeks. On examination there is hepatomegaly. His father also had similar disease and died of liver failure. Liver enzymes, serum iron and ferritin are raised. On liver biopsy golden yellow pigment is seen within the periportal hepatocytes.



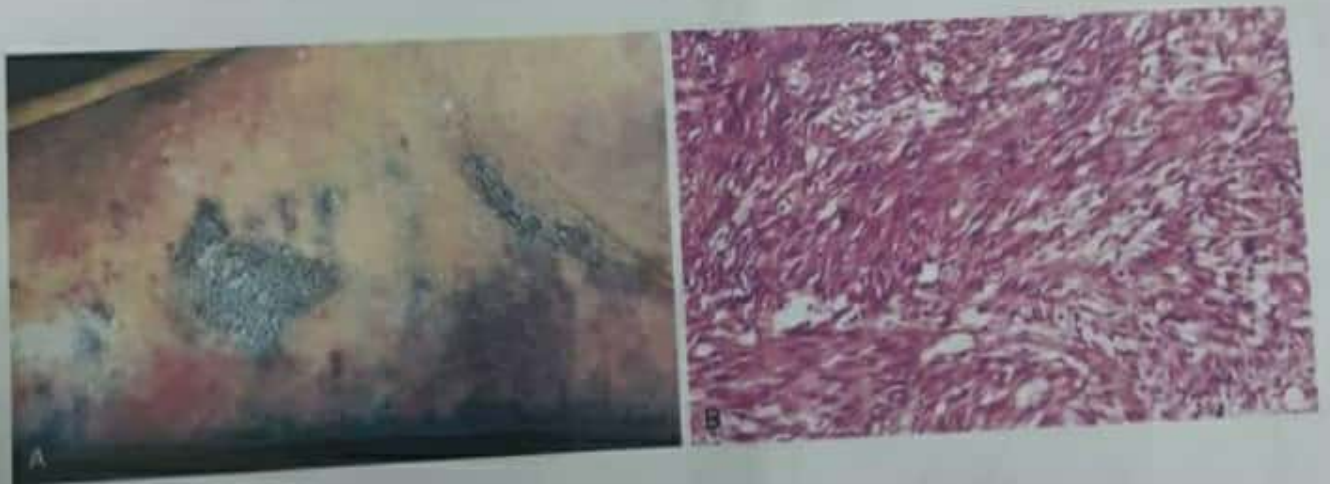
1. What is the diagnosis?
2. Which stain is used to confirm the diagnosis.
3. Based on etiology how do we classify this disease?
4. Discuss the pathogenesis of this disease and also discuss the role of hepcidin in iron absorption and regulation.
5. Which proteins regulate hepcidin levels and also discuss the mutation in adult and juvenile hemochromatosis.
6. What is the WHO criteria for the diagnosis of metabolic syndrome?

Ospe Station:

Topic CVS(Vessels)

A 35 year old male presented with a rash and plaque like lesion on calf, he is also diagnosed with AIDS.

The Lesion seems to be associated with HHV8.

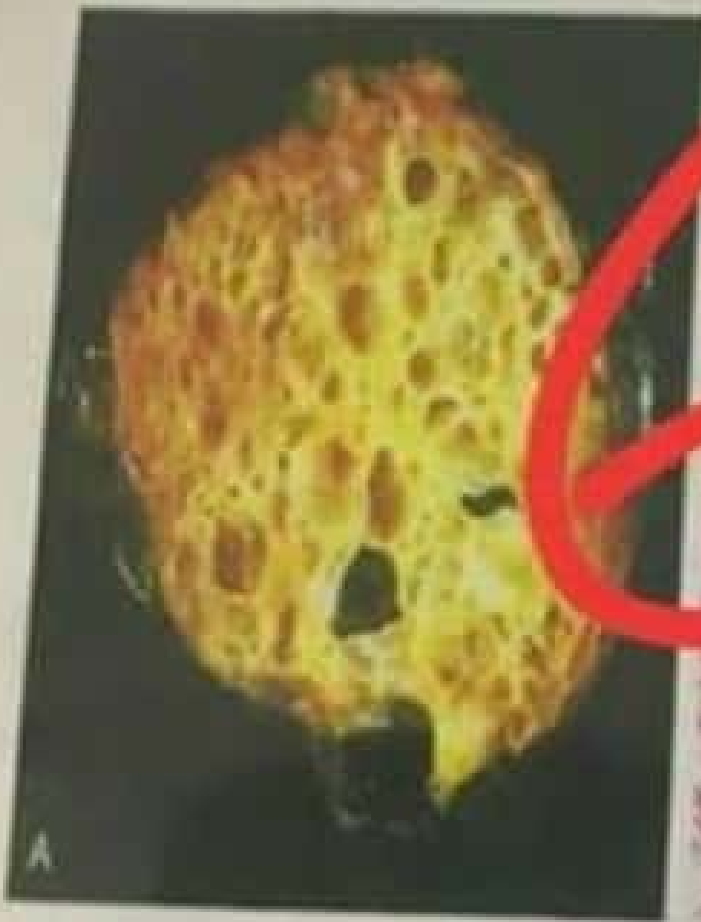


Q-1 What is the diagnosis. 1

Q-2 Name 3 common stages of above lesion. 2

Q-3 Name most common benign tumour of blood vessel. 1

1. Kaposi sarcoma
2. patches (red purple macules),
raised plaques,
nodular stage
3. capillary hemangioma



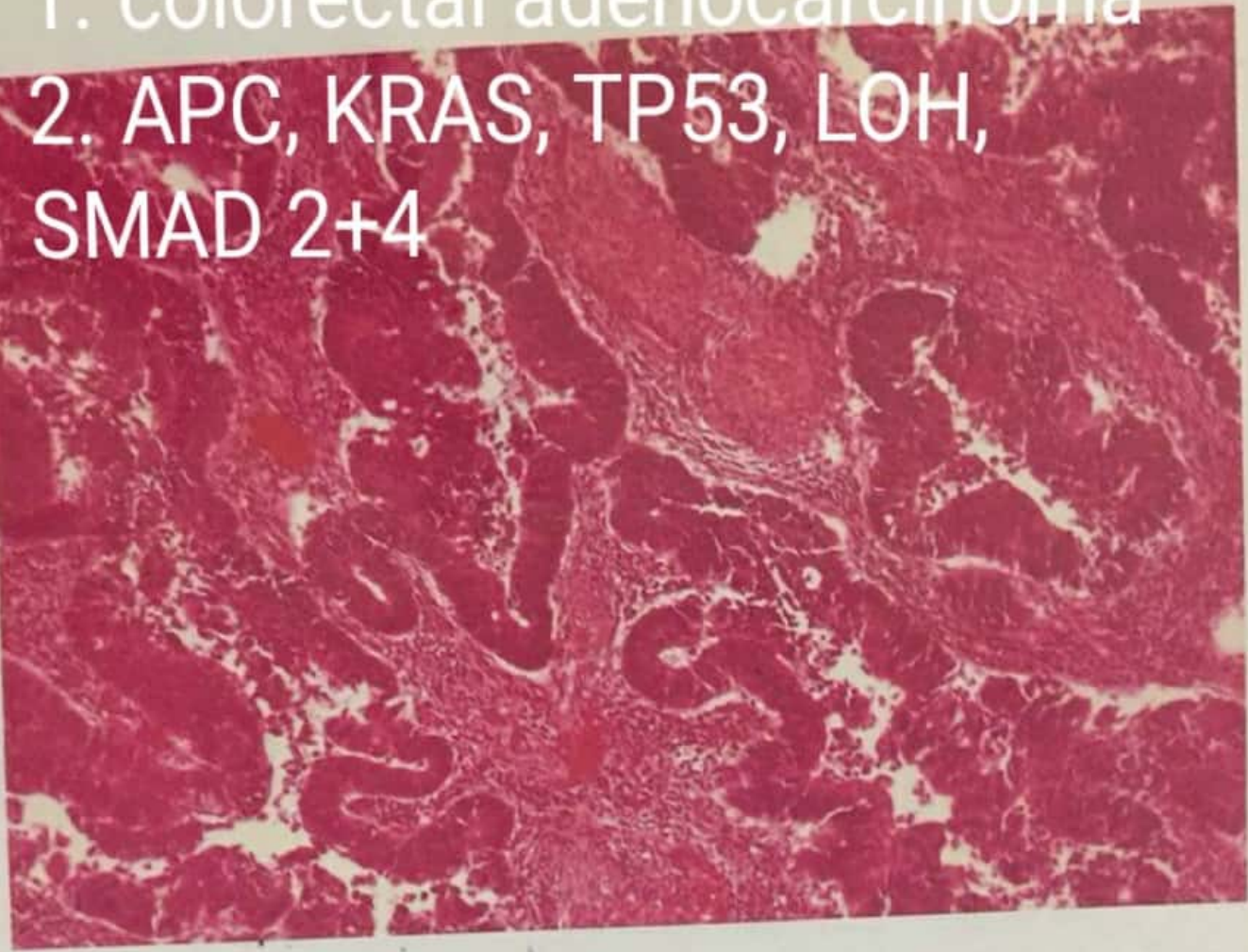
A 29 years old female diagnosed with an ovarian cyst underwent surgical excision and the surgical specimen showed multiple cysts which on opening drained thick gelatinous fluid. The histology showed cyst wall lined by columnar epithelial cells with apical mucin and basally located nuclei. No stromal invasion was identified.

1. What is the diagnosis?1
2. What is the name of its malignant counterpart?1
3. Which gene is altered in these tumors.1

Mucinous cystadenoma

1. colorectal adenocarcinoma

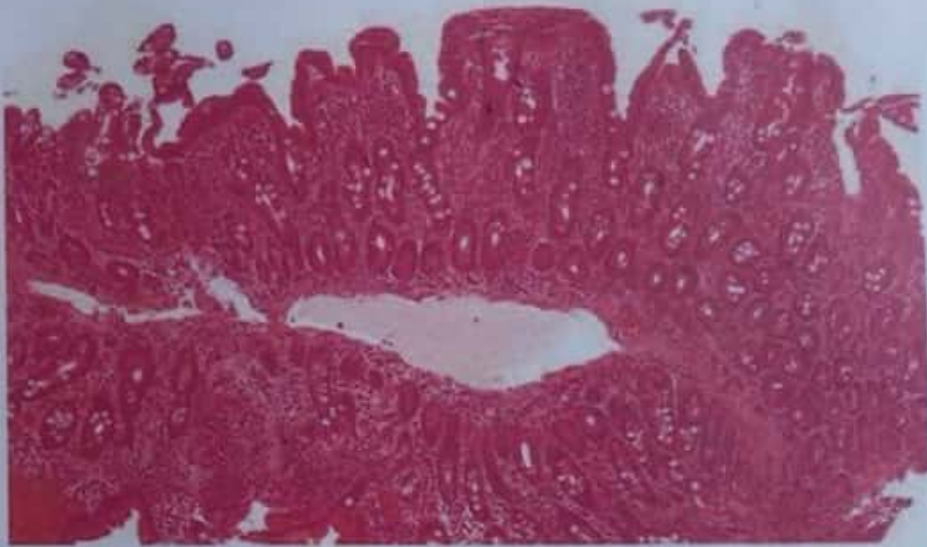
2. APC, KRAS, TP53, LOH,
SMAD 2+4



This is the histological picture of colonic biopsy of a 45 year old male with history of ulcerative colitis.

- A)- What is your diagnosis? (1)
- B)- Which genes are implicated in this pathology? (2)
- C)- Describe the histological features seen above - (1).

3. tall columnar resembling dysplastic epithelium, poorly formed glands, infiltrating nests of tumor cells



A concerned mother brings her 4 yr old daughter to the doctor with the complaint of bloating, diarrhoea, failure to thrive and weightloss. On lab findings she was found to be anemic and antibodies in the serum were detected. the doctor advised small gut biopsy which showed the above picture.

- A) Identify the disease. (01)
B) Identify the histological features shown in the photomicrograph. (02)
C) What would be the treatment? (01)

1. celiac disease
2. crypt hyperplasia, villous atrophy, intraepithelial lymphocytes
3. gluten-free diet

103

Liver

SGD 11

Circulatory disorders and hepatic diseases associated with pregnancy

page 862-866

A 21 years old female with history of recurrent abortions presents with abdominal pain, jaundice and vomiting. On examination she has tender hepatosplenomegaly and ascites.



1. What do you think is the diagnosis?
2. What is the classic clinical triad for Budd-Chiari syndrome.
3. What are the forms and clinical manifestations of hepatic circulatory disorders.
4. What is nutmeg liver?
5. Name the various hepatic diseases commonly associated with pregnancy.



This is photomicrograph of a 19 year old boy who underwent colectomy. The mucosa is studded with more than hundred polyps, one of them turns out to be an adenomatous polyps.

- A) What is the diagnosis? (02)
- B) Which gene is involved in its pathology? (01)
- C) What malignancy could it give rise to (01)

1. FAP familial adenomatous polyposis
2. APC gene
3. colorectal adenocarcinoma

1. chronic hepatitis C

2. ACUTE

scant mononuclear infiltrate
minimal portal inflammation
spotty necrosis/lobular hepatitis
ballooning degeneration
apoptosis
macrophage aggregates

CHRONIC

dense mononuclear infiltrate
portal fibrosis/scarring
interface + lobular hepatitis
increased ductular reaction
bridging fibrosis + necrosis
ground glass cells (hep b)
fatty change + lymphoid/
macrophage aggregates
(hep c)



A 54-year-old man, has felt fatigued, malaise & lethargic for the past 3 months. He experienced an episode of jaundice 15 years ago, but that resolved. On physical examination there are no remarkable findings. Laboratory studies show that albumin 2.3 g/dL, ALT 162 U/L and AST 171 U/L with total bilirubin 3.3 mg/dL and direct bilirubin 0.6 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the lobules from the triads. There are foci of steatohepatitis & lymphoid follicles.

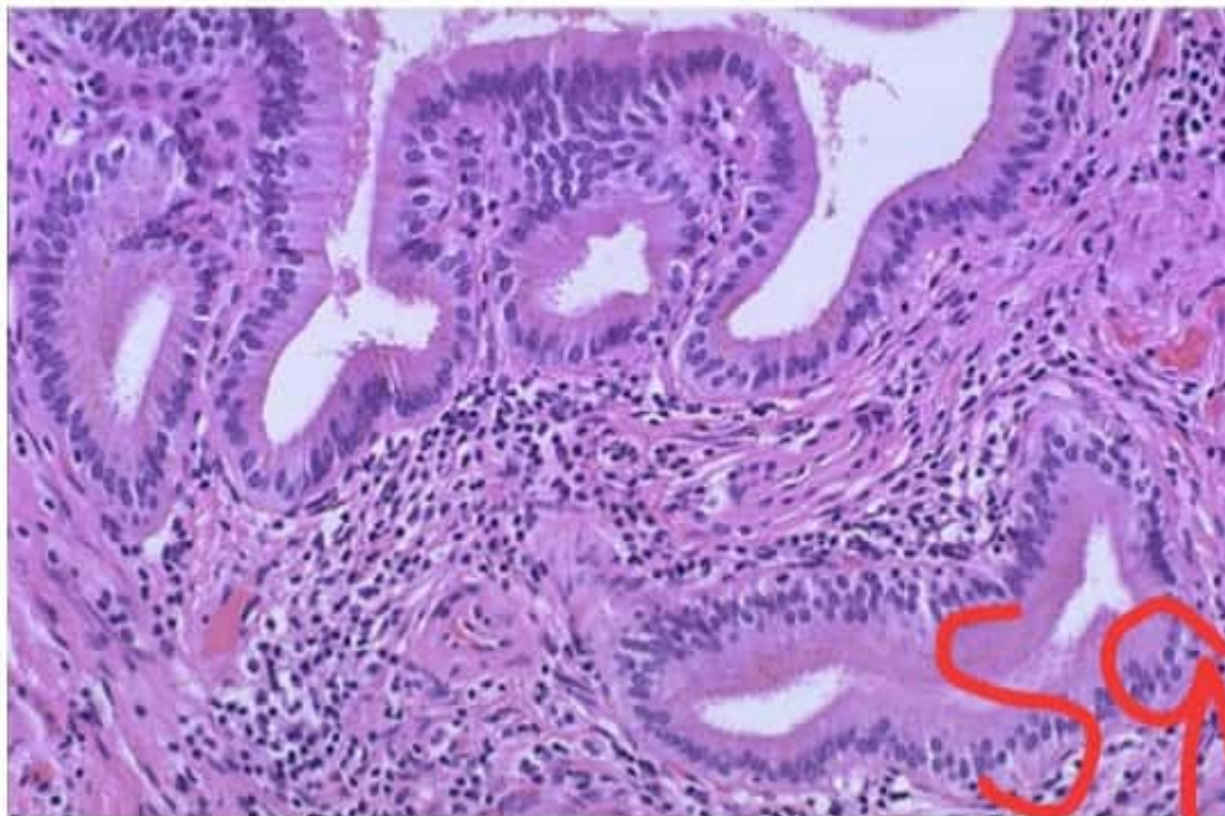
1. What is your diagnosis? 1
2. What are the differences in the morphology of acute & chronic hepatitis? 1
3. Name 2 complications of this infection, 1

3. complications of hep c

- liver cirrhosis
- metabolic syndromes (insulin resistance + NAFLD)

SGD GALL BLADDER (page 875-880)

A 50 years old lady presents with history of dull right upper quadrant pain and flatulence for the past one year. Ultrasound showed numerous stones in the gall bladder. Cholecystectomy was done and microscopic picture is given below.



sgd

1. Enlist various types of gall stones?
2. What is the pathogenesis of cholesterol and pigment stones?
3. Describe the microscopic picture?
4. What diagnosis will you give on histopathology report for the given picture?
5. What are the complications of cholelithiasis?

Squamous cell carcinoma of esophagus

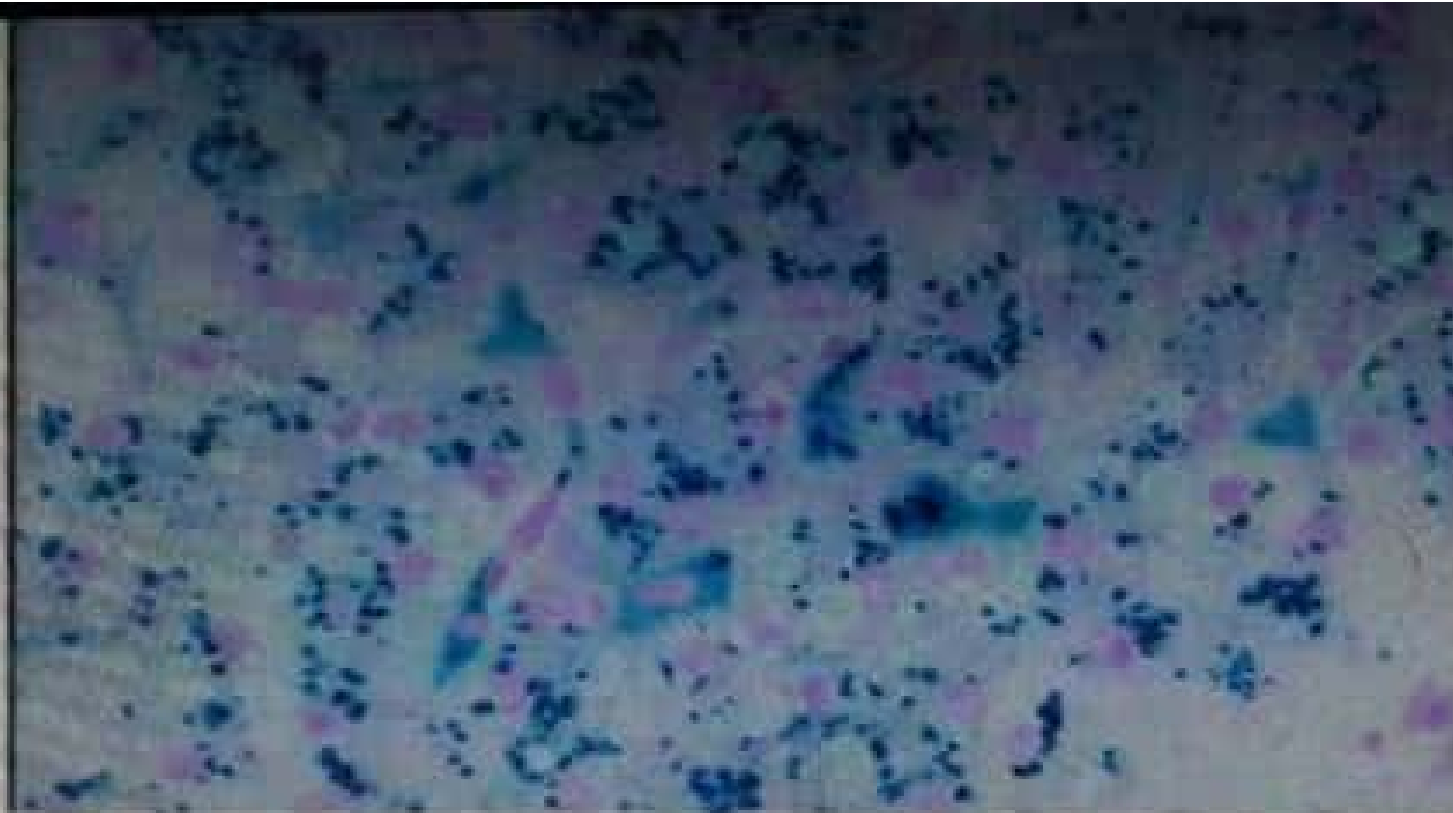


Above is the gross and the microscopic picture of esophagus of a young male with history of chronic smoking and alcohol consumption

- A) What is the diagnosis? (01)
- B) Which part of esophagus is affected commonly by this pathology (01)
- C) Describe any two histologic features of this pathology (01)

b) middle one third of esophagus

C) nests of malignant cells that recapitulate the organisation of squamous epithelium + keratin pearls + squamous dysplasia



I

A 17-year-old teenager diagnosed case of thalassemia major, was on repeated blood transfusion. He develops progressive severe ascites and tender hepatomegaly over a period of several months. Liver function tests are also slightly deranged.

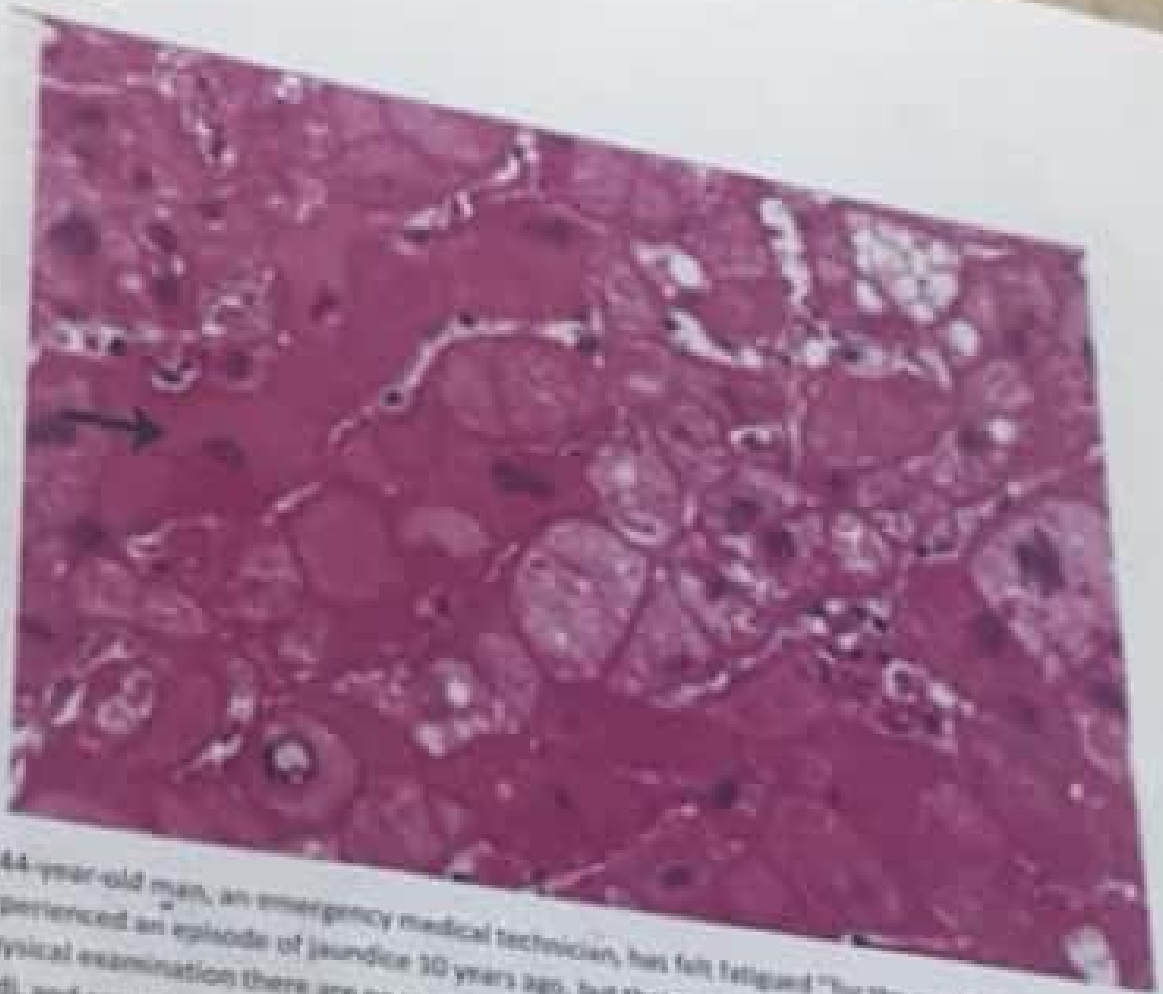
1. What will be your diagnosis? 1
2. Name the gene involved in hereditary form of this disease. 1
3. What will be the stain used to highlight iron pigment? What will be the lab. investigations used to diagnose this case? 1

SGD PANCREAS page 883-895

Mrs. Miller is a 58 year old woman who presented with complaints of nausea, vomiting, and severe abdominal pain radiating to back and shoulder. She gives a history of alcohol intake. Physical examination reveals a distended abdomen that is very tender on palpation. Turner's sign and Cullen's sign are positive. Bowel sounds are present in all four quadrants, but hypoactive. She is diagnosed as a case of acute pancreatitis.

SGD

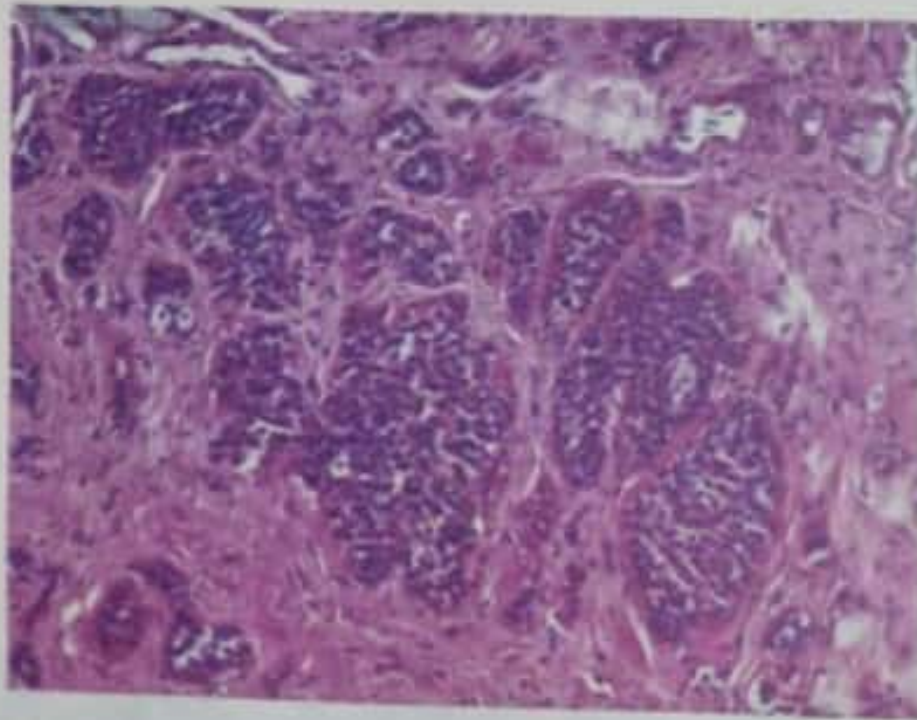
1. How the lab tests will support this diagnosis?
2. What is the etiology and pathogenesis of acute pancreatitis.
3. How can chronic pancreatitis develop in an individual with repeated episodes of acute pancreatitis.
4. What are the complications of acute and chronic pancreatitis?
5. Give a brief overview of cystic neoplasms of pancreas.
6. What is the precursor lesion in the development of pancreatic carcinoma.
7. Give a diagrammatic illustration of the pathogenesis of pancreatic carcinoma.
8. What are the histological features of pancreatic adenocarcinoma.



A 44-year-old man, an emergency medical technician, has felt fatigued for the past 4 months. He experienced an episode of jaundice 10 years ago, but that resolved and he has been healthy since. On physical examination there are no remarkable findings. Laboratory studies show his hemoglobin is 14 g/dL and serum electrolytes normal, but he has a total protein of 5.4 g/dL, albumin 2.9 g/dL, ALT 112 U/L and AST 113 U/L with total bilirubin 1.3 mg/dL and direct bilirubin 0.8 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the lobules from the triads. There is focal ballooning degeneration of hepatocytes & characteristic ground glass appearance.

1. What is your diagnosis? 1
2. What is interface inflammation? 1
3. What are different routes of transmission of this disease? 1

blood transfusions. Used syringes
contacts. Mother to fetus.



A 22 year old male presents in the OPD with complaints of diarrhea, off and on flushing, palpitations. His blood pressure is 110/55 and at times has moderate Right iliac fossa pain. There is no history of weight loss. Suspicion of carcinoid syndrome was made.

A) Which hormone levels will you find to be raised?

(01) 1. serotonin, polypeptide YY

B) Describe the histology?

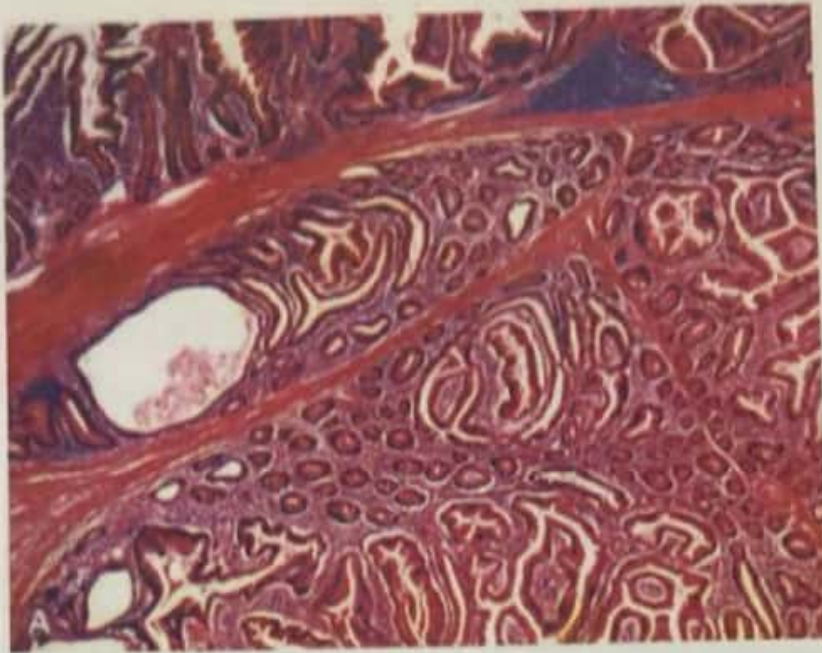
(01)

C) At what other sites can this lesion present?

(02)

2. yellow tan color, firm, desmoplastic reaction

islands, trabeculae, strands, glands, sheets of uniform cells with scant granular cytoplasm + round/oval stippled nucleus, minimal pleomorphism



This is the histological picture of a 10 years old boy with multiple hamartomatous polyps and mucocutaneous pigmentation

- A) What is the diagnosis? (01)
- B) Which gene is involved most commonly (01)
- C) Which two cancers can arise in the back ground of this pathology? (01)

1. Peutz Jeghers syndrome
2. STK11 gene
3. sex cord tumors of testes at birth
gastric & small intestinal cancers
in late childhood,
colon, lung, breast, pancreatic and
thyroid cancer in adulthood

...ers (cTnT, cTnI, myoglobin)

Q. A 66 years old male complaining of chest pain is brought to emergency room by ambulance. The pain began to hours ago. He describes pain as retrosternal, pressure like and radiating to left arm and jaw. He has past medical history of hypertension, cigarette smoking. Vital signs show a blood pressure 160/100 mm Hg. HR 98 beats/min respiratory rate 18/min

- a) What is your provisional diagnosis? 01
- b) What lab investigations should be done to confirm diagnosis? 15
- c) Name four modifiable and non-modifiable risk factors for above condition 15

3. genetics, male gender, increasing age, family history

smoking
hypertension
lipidemia

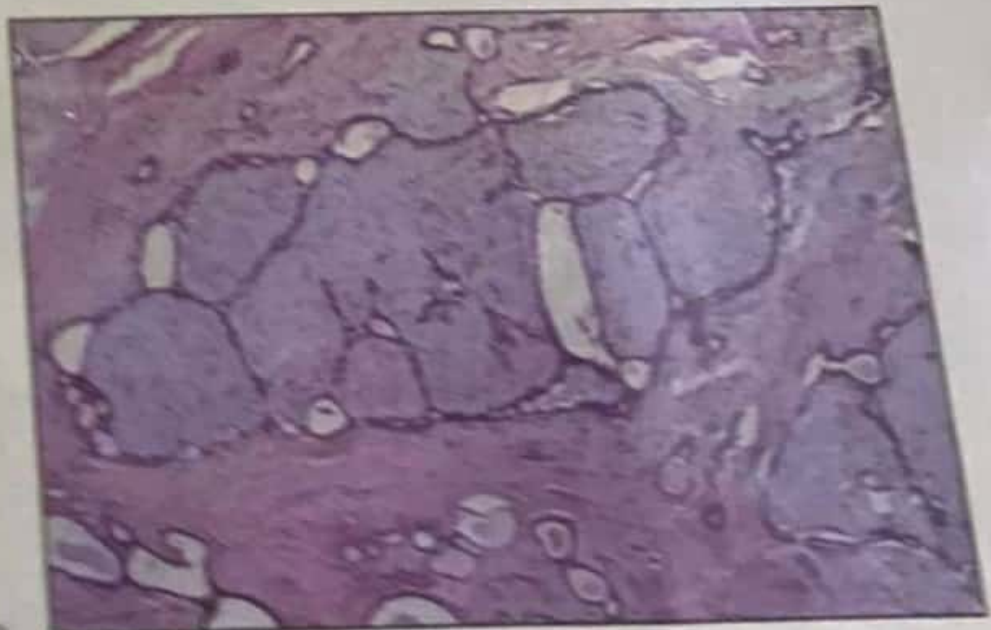
2. intracanalicular and pericanalicular

5

3. phyllodes tumor

A 20 years old female comes to surgical OPD with complaint of left breast lump. On examination the lump is firm, non-tender, freely mobile and measures 2×2cm. The nipple and the overlying skin is normal with no gross changes.

She underwent surgical excision of the lump and the gross and microscopic images are given below



Barrett esophagus



This is the endoscopic picture of esophagus of a middle aged male with history of chronic reflux

- A) What is the diagnosis? (02)
- B) Which malignancy could it give rise to? (01)
- C) What is the most important risk factor for this condition? (01)

b) Adenocarcinoma of esophagus

c) GERD



More



Reply



Edit

H. Pylori Gastritis



This is the microscopic high power view of antral biopsy of a 35 years old male with history of heartburn and dyspepsia. A suspicion of gastritis is made.

- A) Interpret the finding in this photomicrograph (02)
- B) What is the final diagnosis (01)
- C) Which special stain is used in the above photomicrograph (01)

- a) spiral shaped h.pylori in superficial mucus overlying epithelial cells
- -intraepithelial neutrophils
- b) H.pylori gastritis
- c) Giemsa stain



More



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Edit

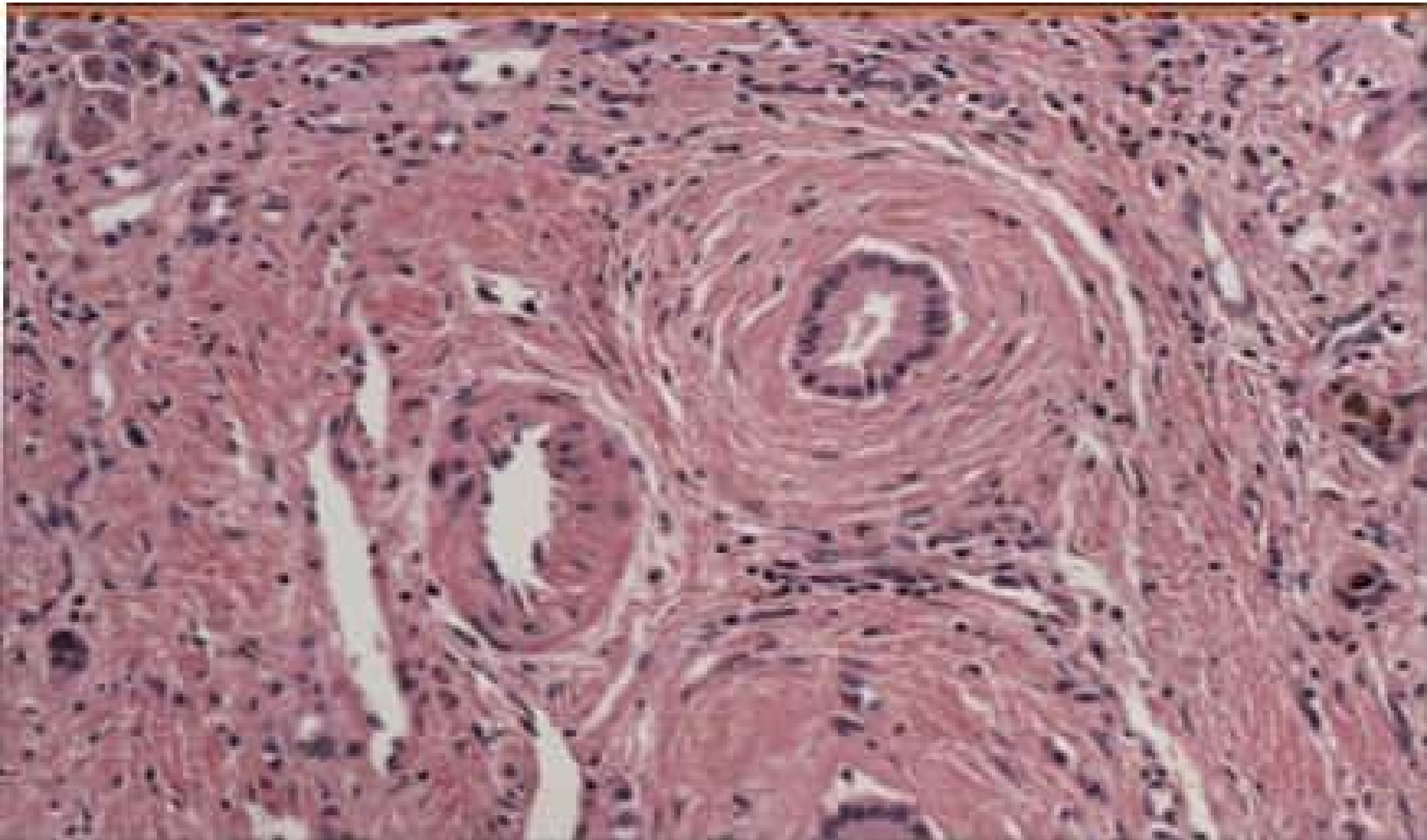


A 30 year old married woman presents to gynecology OPD for routine checkup. She is taking Oral Contraceptive Pills for contraception for the last 4 years. She reports slight discomfort in the right hypochondrium. Alpha protein level is essentially within normal limits. Ultrasound shows a space occupying lesion. She is physically fine otherwise.

1. Which will be most likely lesion in this scenario? 1
2. Name the molecular subtypes of this lesion? 2

(ii) beta-catenin. Activated hepatocellular adenoma.

(iii) inflammatory hepatocellular adenoma



5



This is the histologic picture of esophagus of a middle aged male with history of chronic reflux

- A) What is the diagnosis? (02)
- B) Which malignancy could it give rise to? (01)
- C) What is the most important risk factor for this condition? (01)

Barret esophagus
Adenocarcinoma of esophagus
GERD



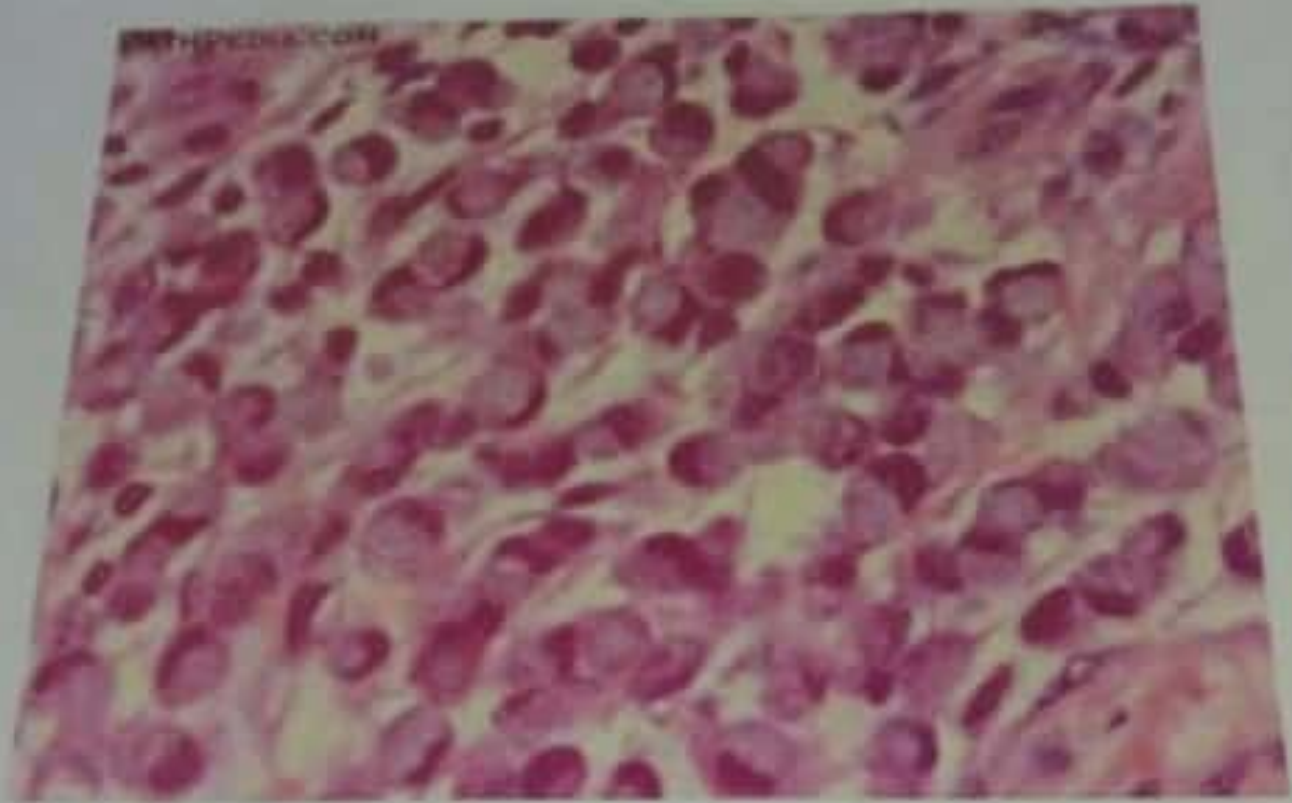
More



Reply



Edit



This is the photomicrograph of stomach biopsy of an elderly male with weightloss anemia and previous history of gastritis.

- A) What is the diagnosis? (01)
- B) What are the two important types of stomach carcinoma (02)
- C) What is the name given to the gross appearance of stomach in this pathology (01)

a) signet ring cell adenocarcinoma of stomach

b) diffuse and intestinal gastric CA

c) linitis plastica



More



Reply



Edit

Acute pancreatitis

serum amylase.

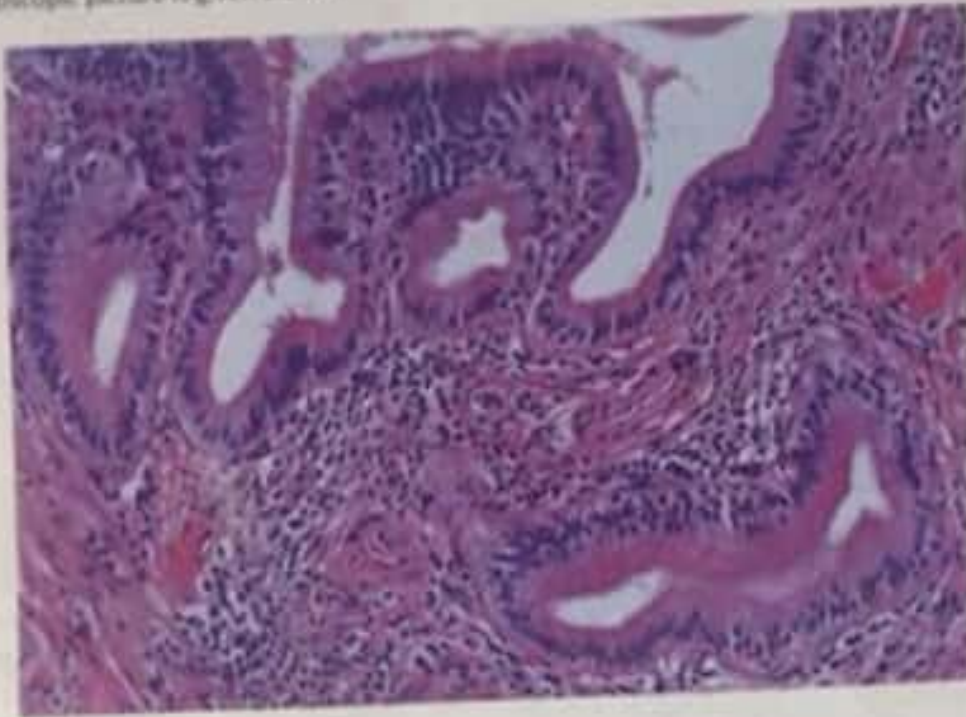
serum lipase

A 58-year-old woman who presented with symptoms of nausea, vomiting, and severe abdominal pain radiating to the back and thighs. She gives a history of alcohol abuse. Physical examination reveals a distended abdomen that is very tender on palpation. Serum lipase and amylase are elevated. There are chills with febrile tachycardia on the previous evening and increasing leukocytosis, anemia, hemocrit high, fat necrosis and acute necrosis.



1. Based on the above picture what do you think is the diagnosis? (1)
2. What are the two most important lab tests to support your diagnosis? (2)

A 50 years old lady presents with history of dull right upper quadrant pain and flatulence for the past one year. Ultrasound showed numerous stones in the gall bladder. Cholecystectomy was done and microscopic picture is given below.

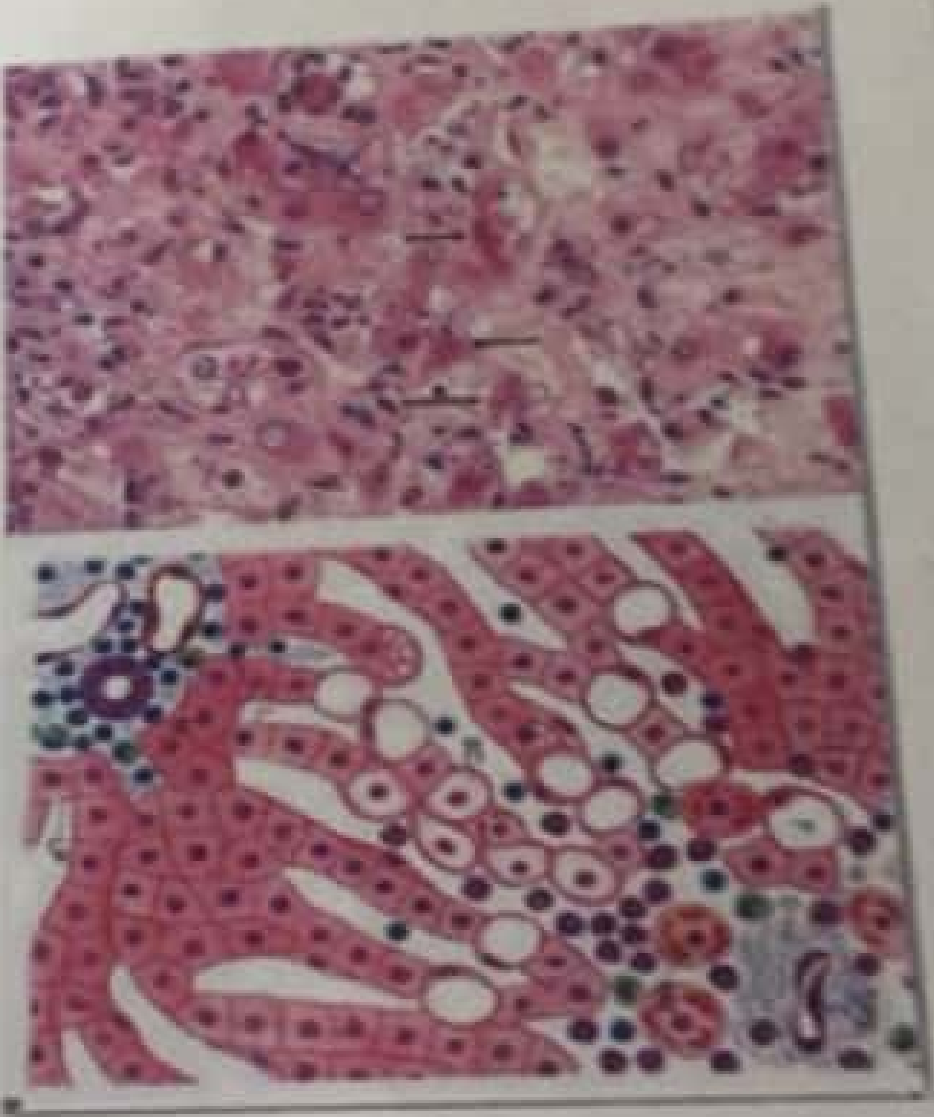


1. What is the pathogenesis of cholesterol stones? (2)
2. What diagnosis will you give on histopathology report for the given picture? (1)

(ii) hypomotility of gall bladder

(iii) accelerated cholesterol crystal nucleation

(iv) hypersecretion of mucus in gall bladder



A 41-year-old man is found in an unconscious state and taken to the hospital. He is icteric. His abdomen is enlarged with a fluid wave. Laboratory studies show total protein 6.5 g/dL, albumin 2.8 g/dL, total bilirubin 4.8 mg/dL, AST of 548 U/L, ALT 337 U/L, alkaline phosphatase 55 U/L, and ammonia 91 micro mol/L. A liver biopsy is performed and microscopically demonstrates abundant Mallory hyaline, neutrophilic infiltrates, hepatocyte necrosis, portal fibrosis, and extensive macrovesicular steatosis.

1. What is your diagnosis? 1
2. What are Mallory-Johnson bodies? 1
3. Name 3 liver pathologies that can be encountered in an alcoholic patient? 1

Station 8:

A 45 yrs. old female presented with yellowish discoloration of sclera. She had no history of any transfusion or contact with hepatitis. She has intense itching on legs since last 1yr.

His labs are

Bilirubin	20mg/dl
ALT	105U/L
AST	130U/L
ALP	1989U/L
Total protein	8.9g/l
Albumin	2.4g/l
Gamma GT	230 iu/l

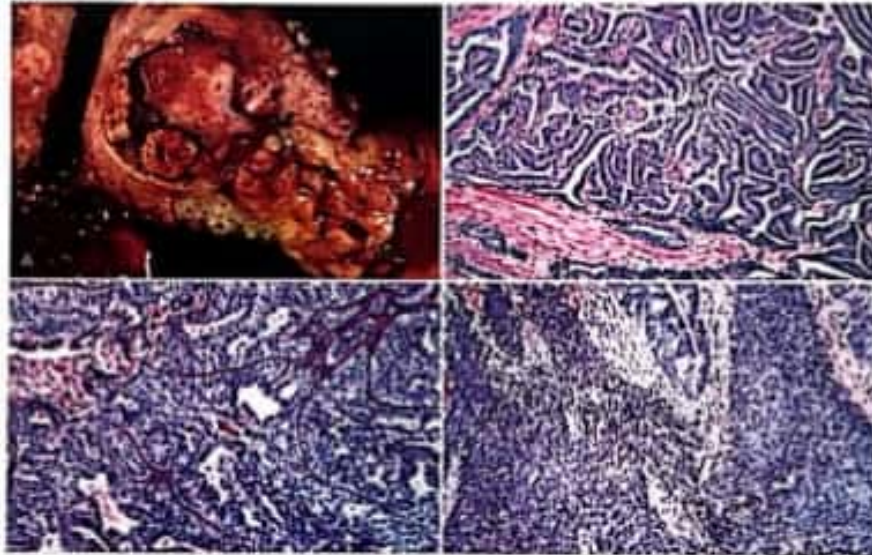
1. What is the diagnosis? 1
2. What biochemical findings suggest the diagnosis? 1
3. Name enzymatic markers of hepatocyte injury? 1

ANMC

OSPE

Topic Female Genital tract

A 35 year old female presented in outdoor clinic with heavy menstrual bleeding. On USG examination uterine growth was identified in the endometrial cavity. You are shown the microscopic appearance of the tumour.



- 1- What is your diagnosis. 1
- 2- Classify endometrial hyperplasia.2
- 3- Which gene is implicated in the pathogenesis of this lesion. 1

1. type 1 endometrial carcinoma
2. WHO CLASSIFICATION
non-atypical hyperplasia and atypical hyperplasia
3. PTEN tumor suppressor gene

Scanned with CamScanner

A 42 year old woman has complaints of heavy menstrual periods that last for several days. This has been occurring for the past three months and has been associated with pain and fatigue. Physical examination reveals an enlarged uterus with

Scanned with CamScanner

1- hepatocellular carcinoma

2- alfa-feto- protein

3- alcohol. Aflatoxin. Metabolic diseases.



A 65 year old male presents with complaint of right upper quadrant pain. He was diagnosed HCV 20 years back. He also gives a history of ill health, fever, decreased appetite and fatigue. Biopsy specimen shows a malignant neoplasm arranged in thick trabecular pattern, bile pigment is also seen.

1. What will be your diagnosis? 1
2. Which tumor marker you will order to support your diagnosis? 1
3. Name the risk factors associated with this condition. 1

Alcoholic cirrhosis

bands of collagen. necrotic nodules



A 48 y/o man, a known case of hep. C for 20 year comes to emergency with an episode of hematemesis. He has distended abdomen with shifting dullness and positive fluid thrill. He appeared confused. Endoscopy revealed esophageal varices. A liver biopsy was scheduled and revealed the histology shown above.

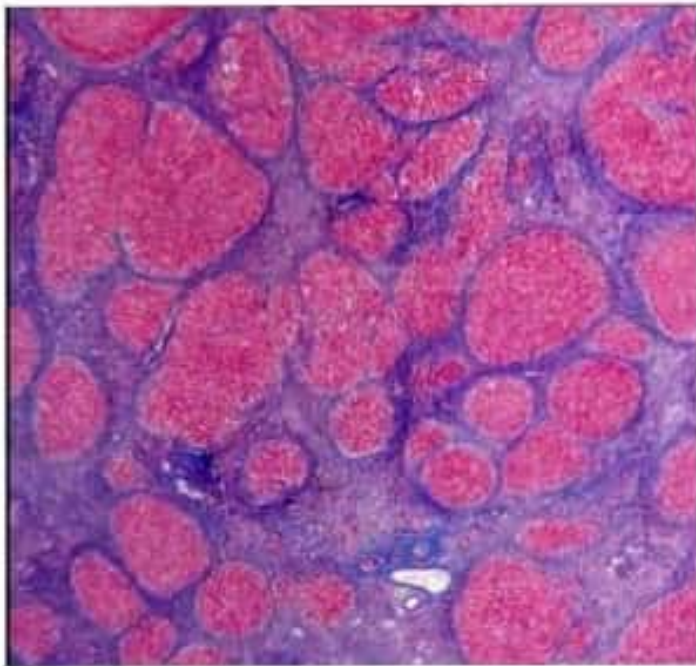
1. What is your diagnosis based of liver biopsy results? 1
2. Describe the morphology shown above? 1
3. What is Asteris? 1

Non rhythmic, rapid extensions-flexion movements of head& extremities. Developed in hepatic encephalopathy

3

SGD LIVER 1

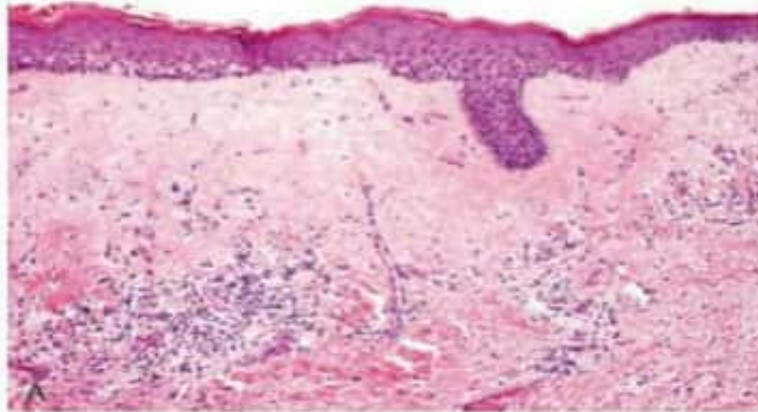
A 12 year old male child presents with pitting edema, ascites and prolonged bleeding from wound sites. His biological parents are not known and he was adopted from orphanage. His abdominal Ultrasound reveals nodular & shrunken liver. Viral serology for HBV and HCV comes out as negative. Biopsy of the liver is done, that revealed the microscopic picture given in the below diagram.



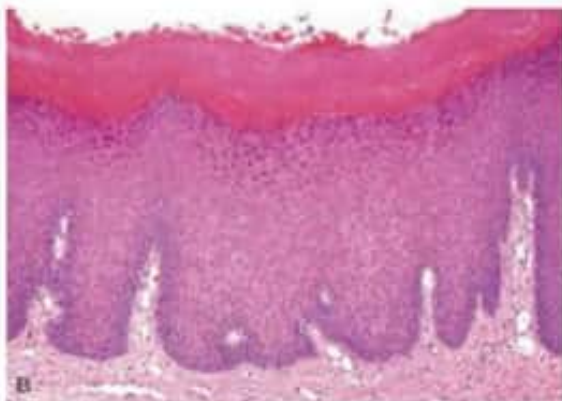
- a) What is your diagnosis?
- b) What is the most likely cause of cirrhosis in children of his age?
- c) What is the pathophysiology of this condition?
- d) What is child pugh classification?
- e) Name the special stain used in the above picture to highlight nodularity.

SGD 1 Vulval diseases (Bartholin cyst, LICHEN SCLEROSIS and squamous cell hyperplasia)

A 66 year old female presents with white lesions, pruritis in her vulval region which have well defined borders. Histologically the lesion is characterized by marked thinning of the epidermis, degeneration of the basal cells, excessive keratinization (hyperkeratosis), sclerotic changes of the superficial dermis and a bandlike lymphocytic infiltrate in the underlying dermis.



1. What is the diagnosis?
2. Which age group is affected more commonly?
3. What is the nature of the disease in terms of etiology? (infectious or autoimmune)
4. What is leukoplakia?
5. What are the histological features of squamous cell hyperplasia and what is the other name of this disease.
6. What are Bartholin cysts?



SGD

dermoid cyst

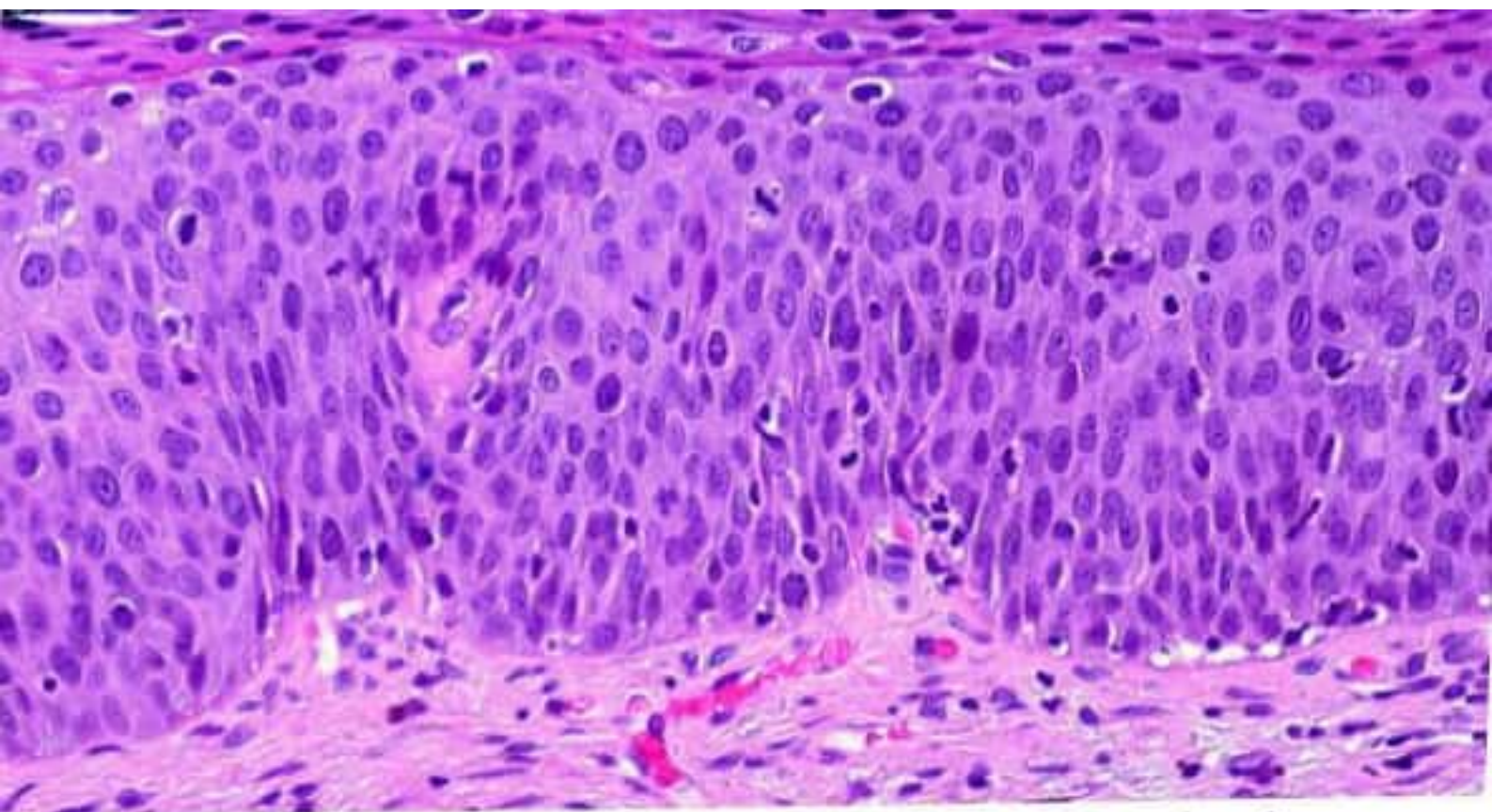


An adult female was diagnosed as having an ovarian cyst which on gross examination was found to have hair and tooth impacted within the cystic cavity. The microscopic section is shown in the picture above.

1. What is the diagnosis.1
2. On which feature the grading of its malignant counterpart is done.1
3. Enumerate the germ cell and sex cord stromal tumors.1

2. proportion of tissue containing immature neuroepithelium

1/8



A 40 year old female with complaints of vaginal discharge is found to have dysplastic cells on PAP smear. Cervical biopsy revealed full thickness dysplasia of the epithelium without invasion.

1. What is the category of CIN/ SIL in this case?
2. Give the name of virus along with its strains which can be responsible.
3. What are the risk factors for cervical carcinoma.
4. Give an account of staging of cervical carcinoma?



A 48 years old female with a four months history of abdominal pain and enlargement is found to have a right ovarian mass on CT. Paracentesis yields cloudy fluid containing psammoma bodies and tuboidal cells. Serum CA-125 is markedly raised. Surgery is performed and the ovarian mass shows area of papillary growth on the surface.

1. What is the likely diagnosis? 1
2. What is the name of its benign counterpart? 2

Serous cyst adenocarcinoma

2. serous cystadenoma



Reply

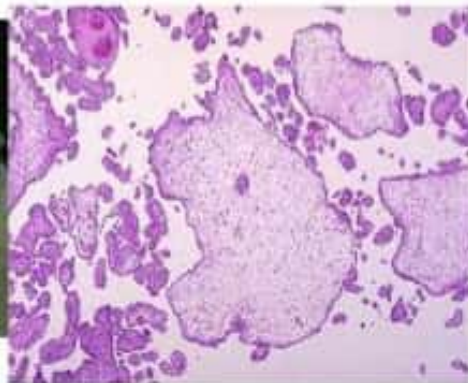


Edit

SGD GESTATIONAL TROPHOBLASTIC DISEASES (page 1039-1042)



Grape-like villi of a vesicular mole



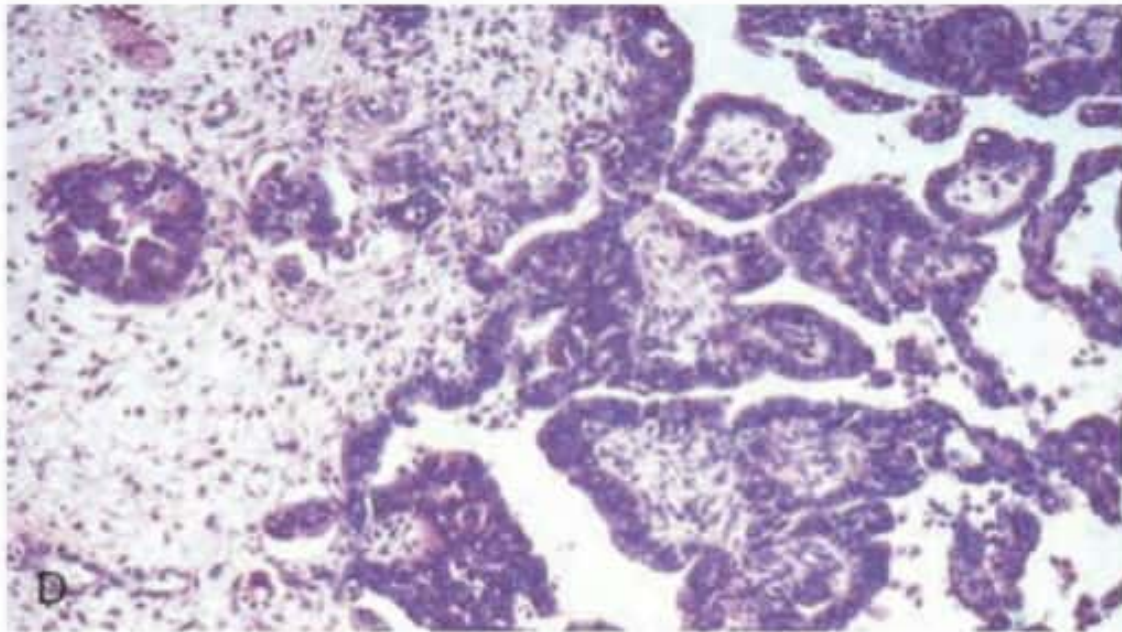
A 30 years old 9 weeks pregnant female underwent pelvic sonogram which showed a snow storm pattern, her β -HCG levels were almost 4-5 times higher than the corresponding level for her pregnancy. A diagnosis of molar pregnancy was made

1. What will be the next step in the management of this patient?
2. What findings on gross examination of the specimen will u observe?
3. What are the differences between a partial and complete mole?
4. How will u follow up this patient?
5. What are the microscopic features of invasive mole and choriocarcinoma.

SGD



SGD 6 Ovarian Tumors (page 1023-1034)



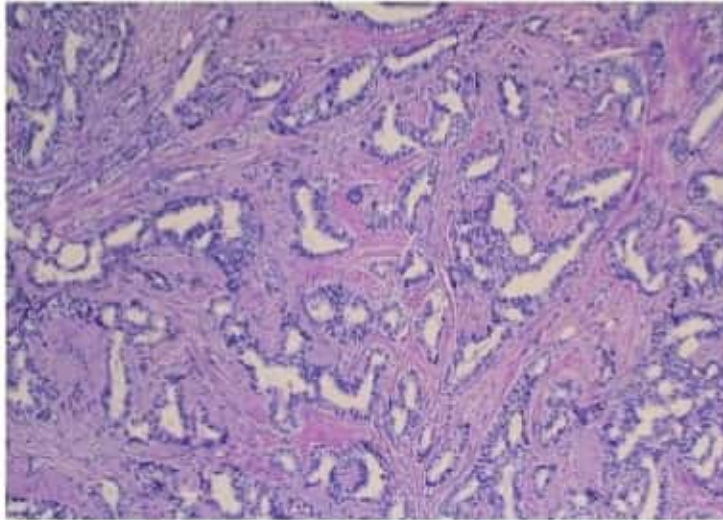
A 48 years old female with a four months history of abdominal pain and enlargement is found to have a right ovarian mass on CT. Paracentesis yields serous fluid Serum CA-125 is markedly raised. Surgery is performed and the ovarian mass shows area of papillary growth on the surface lined by stratified cuboidal to columnar epithelium with marked atypia, mitosis, psammoma bodies and infiltration into underlying stroma.

1. What is the likely diagnosis?
2. What is the name of its benign counterpart?
3. How do we classify surface epithelial tumors of the ovary?
4. Discuss the pathogenesis.

SGD

Ca breast (1)

invasive CA of breast

SGD 3

A 70 years old female presented with a left breast mass measuring 4×3 cm with palpable lymph nodes in the axilla. The overlying skin is ulcerated with peau d' orange appearance and the nipple is everted with discharge. There is no history of pain or discharge from the breast. Her mother died of breast cancer.

- 1) *What could be the differential diagnosis?*
- 2) *What is the final diagnosis?*
- 3) *How does DCIS appear on mammography?*
- 4) *What are the risk factors of Breast Carcinoma?*
- 5) *What are the molecular subtypes of breast cancer?*
- 6) *What is the grading system used for breast carcinoma and name its components?*

Mastectomy was performed and 4 lymph nodes were positive for metastatic disease. Immunohistochemical stains were performed and the tumor was ER and PR positive but HER 2 NEU negative.

- 7) *What would be the stage of this Carcinoma according to AJCC system?*
- 8) *What treatment would be given to the patient?*

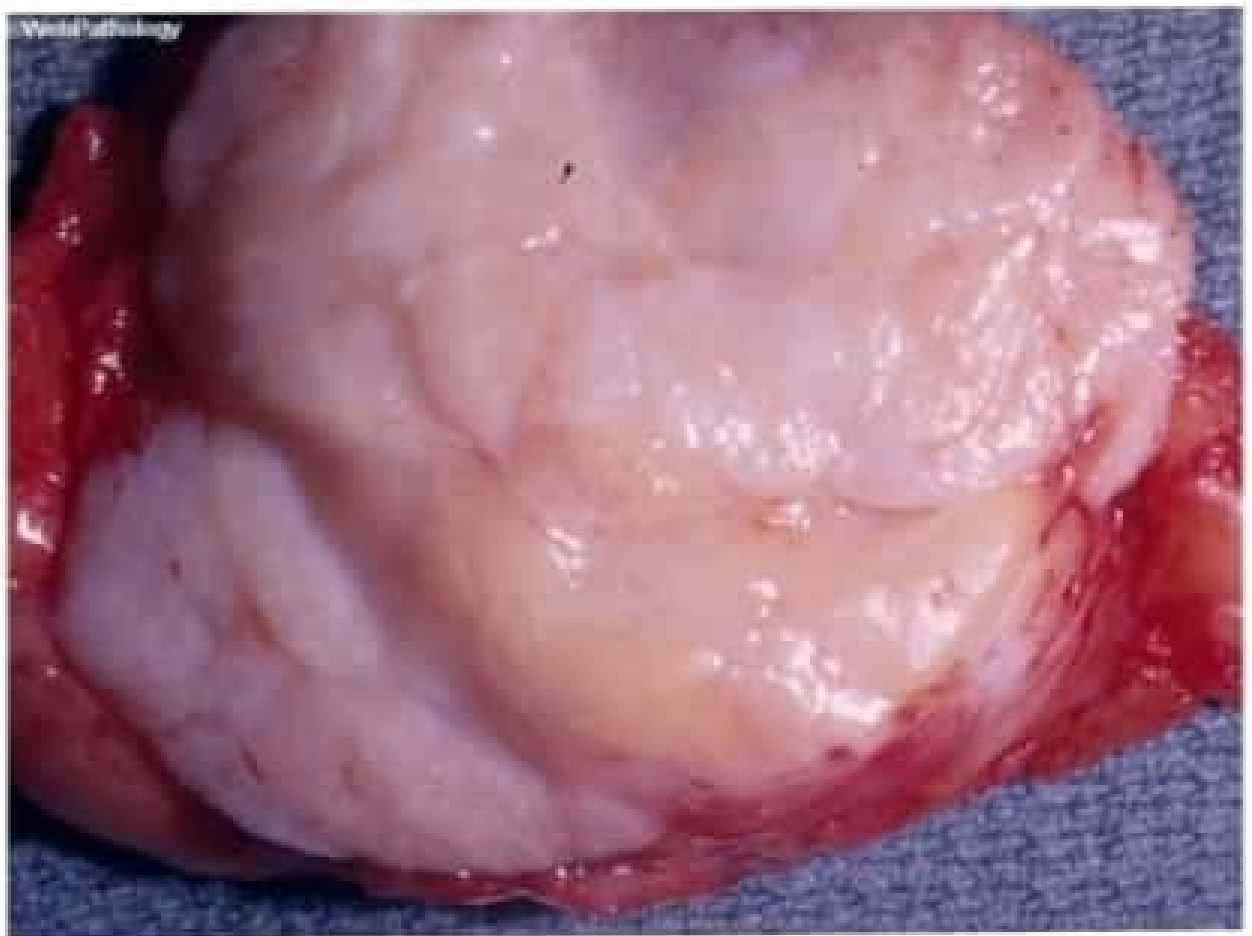
- 9) *If the tumor would have been HER 2 NEU positive how would it effect the prognosis and treatment.*



A 20 years old female comes to surgical OPD with complaint of left breast lump. On examination the lump is firm, non-tender, freely mobile and measures 2×2cm. The nipple and the overlying skin is normal with no gross changes.

1) What are the differential diagnosis?

She underwent surgical excision of the lump and the gross and microscopic images are given below



A 50 year old female presented with lump left breast. The lump was hard and fixed to the surrounding structures. Overlying nipple revealed crusting.



- a- What is the diagnosis 0.5
- b- What is the name of typical pattern shown above 0.5;
- c- What are its other types. 1.5
- d- What is the name of crusting of nipple associated with this condition. 0.5

3

-DCIS
-Comedo
- non comedo
-pagets disease

3

Edit

WPS

3

X

A 2 year boy presented with painless testicular mass, which is a typically bulky lesion with the following morphology. Eosinophilic hyaline-like globules are demonstrated in specimen by using immunocytochemical stains (AFP AND α -1 antitrypsin)

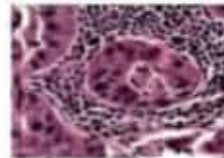
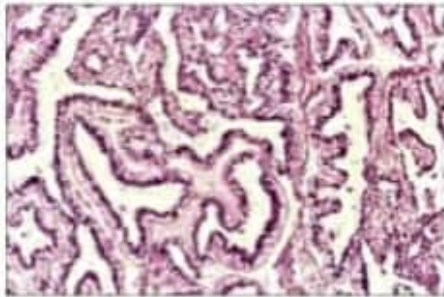


Figure 3: The histological evaluation of the specimen exhibited the Schiller-Duval body which represent the pathognomonic histological feature of yolk sac tumors.

1. What is your diagnosis? **yolk sac tumor**
2. What are three clinical stages of testicular tumors?
3. What is granulomatous orchitis?
4. Name the congenital anomaly of testis. **cryptorchidism**

S1 - tumor confined to testis, epididymis, or spermatic cord

S2 - distant spread confined to retroperitoneal nodes

S3 - metastases outside RPNs or above diaphragm

presents in middle age as moderate test mass of sudden onset a/w fever, sometimes painless.

distinguished by granulomas restricted to spermatic tubules



Tools

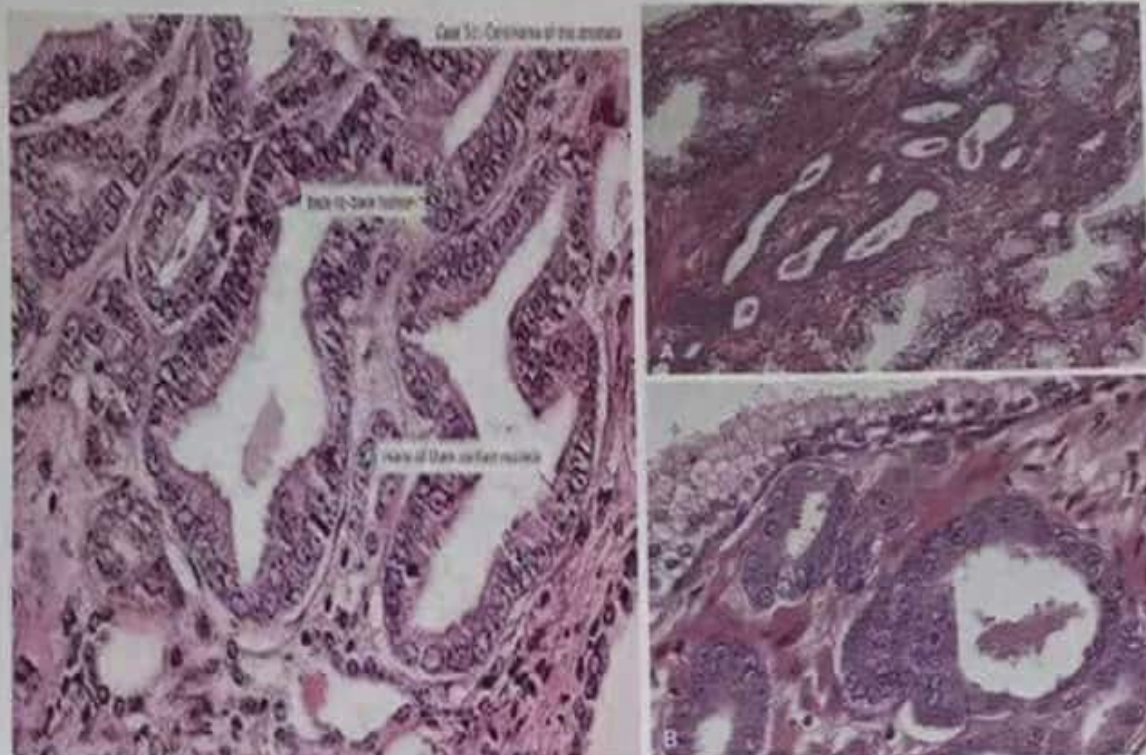


Mobile View



Share

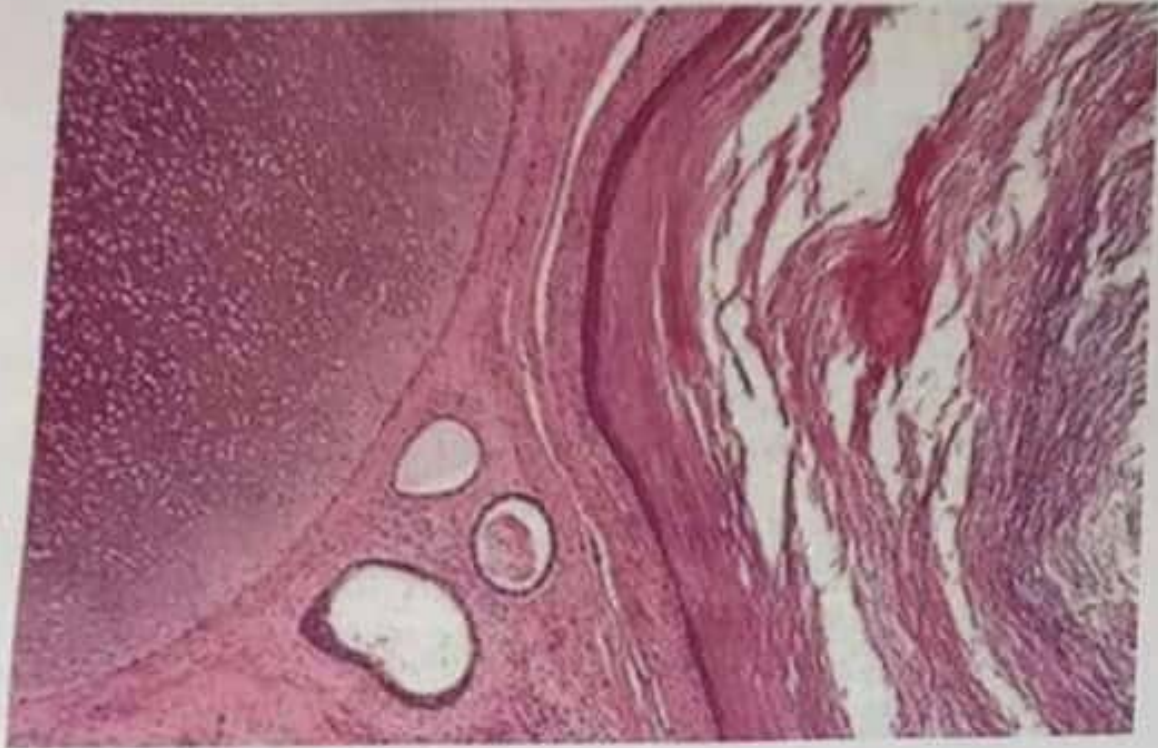




A 70-year-old healthy man has a firm nodule palpable in the prostate via digital rectal examination. Prostate biopsies are performed and on microscopic examination show small, crowded glands containing cells with prominent nucleoli within the nuclei. (as shown in above image).

- A) What is most likely diagnosis?
- B) if the serum PSA is 7 what is its significance?
- C) Name the grading system for this lesion.

1. prostatic adenocarcinoma
2. it suggests a possibility of carcinoma
3. Gleason score



A 20 year old boy presented with testicular mass.

a- Identify the components 1

b- Give classification of testicular tumours 2

Teratoma

74

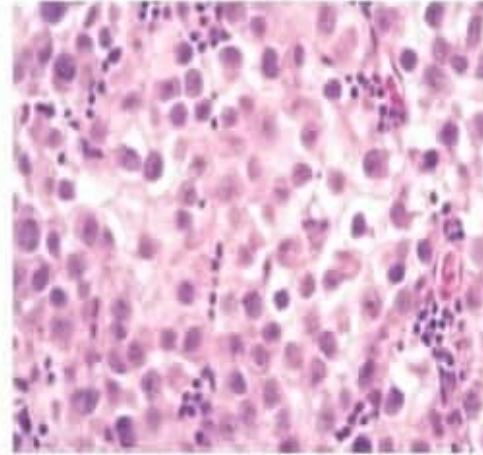
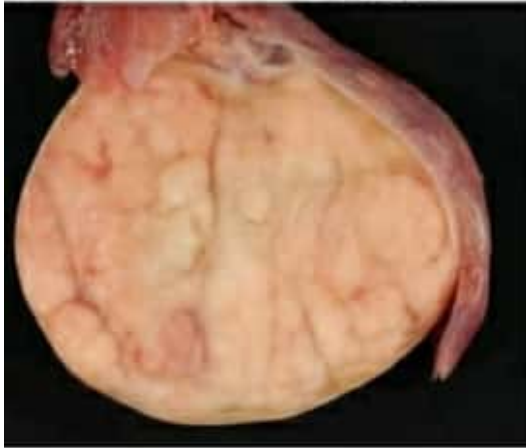
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WPS

2

X

SGD-1



A 30-year-old man has enlargement of the left testis with a palpable left inguinal lymph node. An ultrasound reveals a 4 cm solid mass within the body of the left testis. Laboratory findings included a serum beta-HCG of 5 IU/L and alpha-fetoprotein of 2 ng/mL. The left testis is removed and with on sectioning reveals a firm, lobulated light tan mass without hemorrhage or necrosis. (as shown in the figure.)

A) - What is most likely diagnosis?

seminoma

B) - What are microscopic features of this lesion?

OCT 3/4, NANOG,
PLAP, KIT,

C) - What are tumor markers for this lesion?

B-HCG (15%cases)

D) - what is the difference between classic and spermatocytic seminoma?

sheets of large clear round/polyhedral uniform cells divided into lobules by delicate fibrous septa,

distinct cell borders, clear pale cytoplasm, central pale nucleus, 1-2 prominent nucleoli, lymphocytic infiltrate



Tools



Mobile View



Share



microangiopathic
hemolytic anemia



2. spherocytes,
acanthocytes,
schistocytes
(fragmented RBC)

Carefully examine the given photograph and answer the following questions.

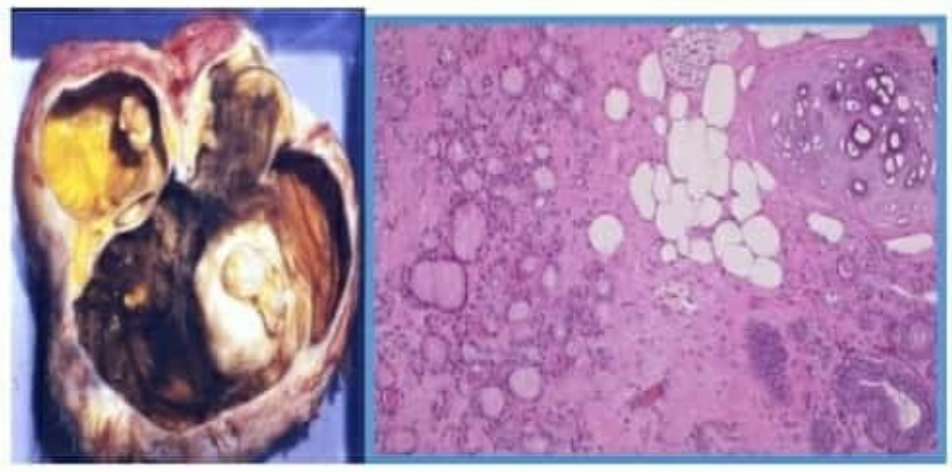
- a. Identify this lesion? (0.5)
- b. What are the identification points? (01)
- c. What are the laboratory findings of this lesion? (02)

-decreased platelet count + fibrin
-increased CT, PT(INR), aPTT
d-dimer

burr cells
helmet cells
triangles

hypospadias, epispadias,phimosis/
condyloma acuminatum, peyronie
disease /CIS, invasive CA

An adult female was diagnosed as having a testicular mass which on gross examination was found to have hair and tooth impacted within the cystic cavity. The microscopic section is shown in the picture above.



1. What is diagnosis? **teratoma**
2. Describe the morphology of above lesion.
3. What is "teratoma with malignant transformation"?
4. Classify **TESTICULAR TUMORS**.
5. Name the Penile congenital anomalies and its tumors.

heterogeneous appearance
w solid, cartilaginous,
cystic areas

neural tissue, muscle
bundles, cartilage islands,
clusters of sq epi, thyroid
tissue

rare phenom in which
malignant non-germ cell
tumors arise in teratomas.
transformation may take
form of SCC, mucin-secreting
adenocarcinoma, sarcoma etc

bronchial epi, bits of
int wall + brain substance
embedded in fibrous/
myxoid stroma



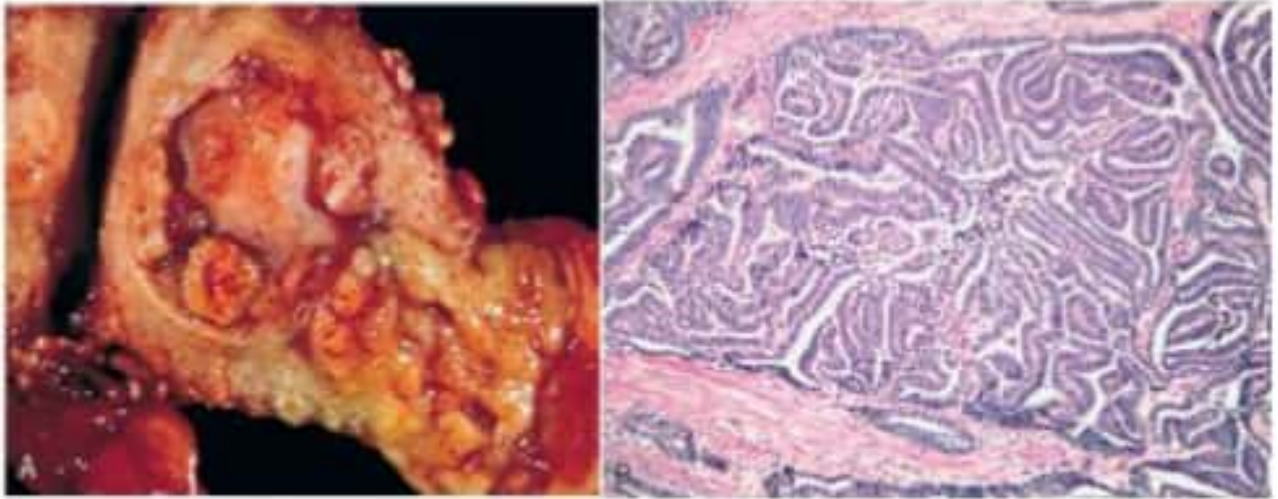
3-a. Identify the lesion of lung. (01)

b. What organism is responsible of this lesion? (01)

c. Name four classical stages of this lesion. (02)

1. lobar pneumonia
2. streptococcus pneumoniae
3. congestion
 - Red hepatization
 - Gray hepatization
 - resolution

SGD ENDOMETRIAL CARCINOMA

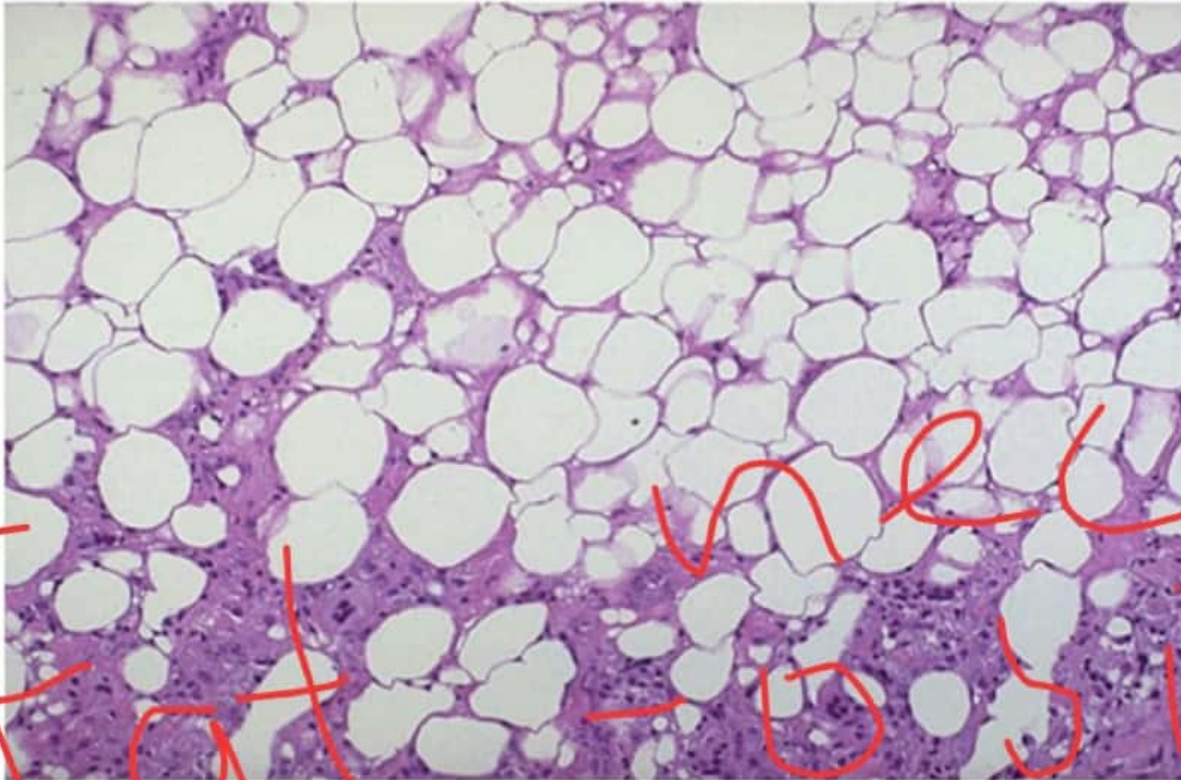


A 44 years old woman with a blood tinged vaginal discharge for one month has a biopsy followed by hysterectomy. The gross appearance of her uterus shows exophytic irregular lesion in the endometrial cavity.

1. What is the most likely diagnosis?
2. What are the differences between type I and type II endometrial carcinomas?
3. Give an account of GRADING and staging of endometrial Carcinoma.
4. What is endometriosis and adenomyosis.

SGD

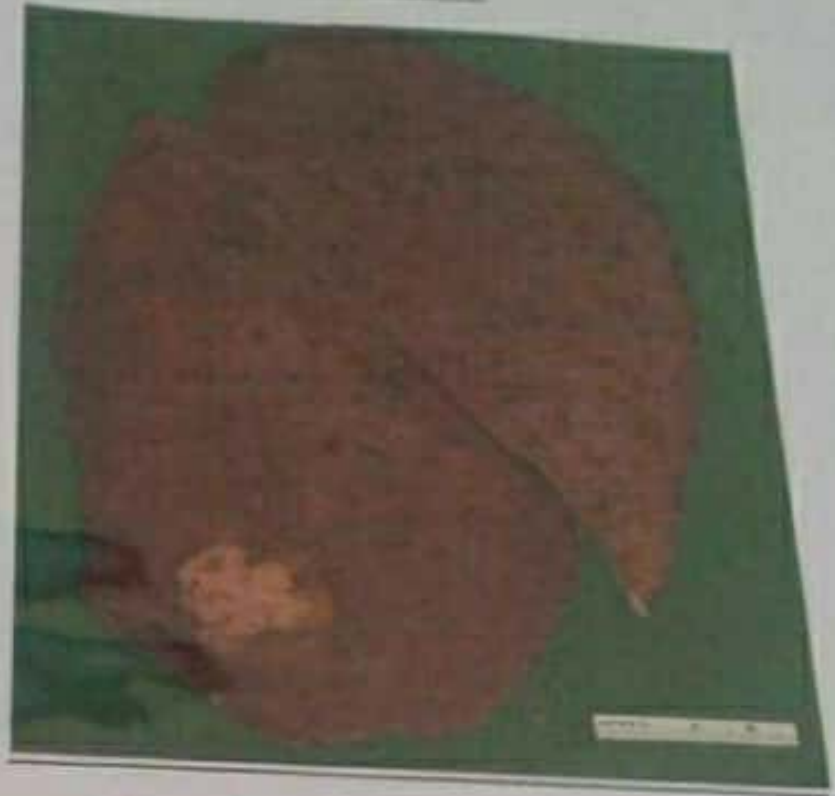
A 25 year old female is breast feeding her 2 year old boy. She gave history of blow to her breast by head of the baby. After 15 days she developed a mass. Biopsy was done and it showed sheets of fat cells surrounded by macrophages



FAT - 15 - 5

- a- *What is the most likely lesion?*
- b- *What are the morphologies of acute and chronic lesions of this entity in the breast?*
- c- *Enlist the inflammatory disorders of breast*
- d- *What is the morphology of duct ectasia?*

STATION # - 2



- 2-a. Identify the lesion shown in this picture of gross specimen of lung. (01)
- b. What is the commonest site of this lesion? (01)
- c. Is it more common in smokers or non-smokers. (01)
- d. Is it metastatic or primary tumor. (01)

1. adenocarcinoma of lung
2. peripheral location
3. non smokers
4. primary tumor



Tayyaba Liaqat

Active 5 hours ago

110-WA0088.jpg - Photos



55 year old male presented to OPD with a complain of tinitis, vertigo. On examination, his face and hands were piethoric. His labs showed Hb 22 g/dl, Hct 55/l, MCV 90fl, MCH 22pg, RBC count $7 \times 10^{12}/l$, ESR 0. TLC $15 \times 10^9/l$.
Please fully examine the given photograph and answer the following questions

What is the diagnosis?

Polycythemia

How will you confirm it?

What would be the erythropoietin level?

123



- 4-a. Identify the lesion shown in this picture of gross specimen of lung. (01)
b. Define the most likely diagnosis in patients with pink puffers appearance? (02)
c. What is measured through spirometry in these patients? (01)

1. Bullous emphysema
2. emphysema
3. FVC normal or slightly increased
FEV1 significantly reduced
FEV1:FVC ratio is decreased

STATION # - 5

1. cystic fibrosis

A 10-year-old boy, to be a normal term baby, his neonatal course was complicated by the development of meconium ileus. Throughout childhood he has experienced multiple increasingly severe bouts of chest infections often with *Pseudomonas Aeruginosa* and foul smelling productive cough. Based upon these findings:-

- He is at greatest risk for development of which Respiratory Disease?
- What are main histological changes occurring in lung during this disease process?
- What are common complications of this pathology?

2. hyperplasia & hypertrophy of mucus secreting cells, mucus plugging & dilation of tracheobronchial tree, consolidation of lung parenchyma

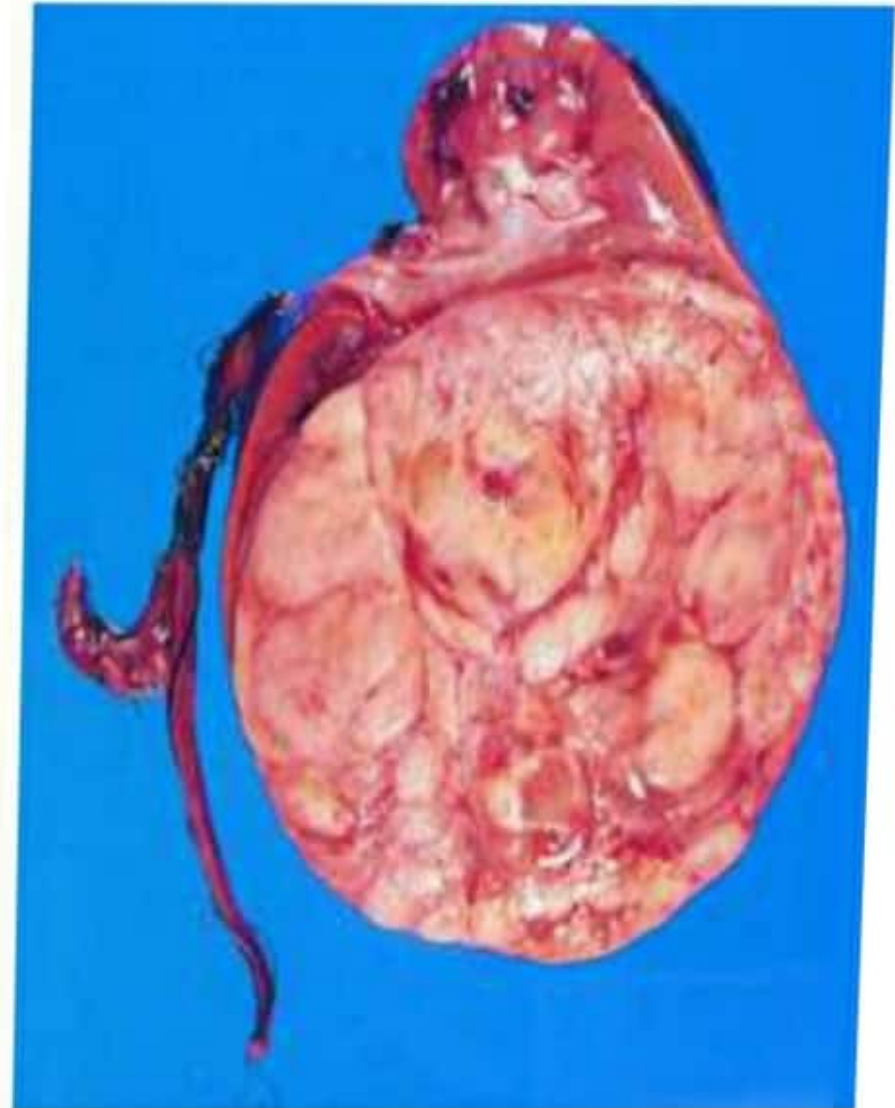
3. lung abscess, chronic bronchitis, bronchiectasis, pancreatic insufficiency, steatorrhoea, hepatic cirrhosis, cor pulmonale, intestinal obstruction, male infertility

WILMS TUMOR

SGD:

A 4-year-old girl has complained of abdominal pain for the past month. On physical examination, she is febrile, and palpation of the abdomen shows a tender mass on the right. Bowel sounds are present. Laboratory studies show hematuria without proteinuria. Abdominal CT scan shows a 12-cm, circumscribed, solid mass in the right kidney. A right nephrectomy is done; the gross appearance of the mass is shown in the figure.

- 1. What is your diagnosis?*
- 2. Describe the morphology on gross and microscopic examination.*
- 3. What is the prognosis?*



A 45 years old hypertensive male suddenly developed excruciating stabbing pain in the epigastrium which radiates to the back. The patient expired before reaching the hospital. Autopsy was performed and the histopathology of the lesion from aorta revealed the following microscopic findings.



- a. What is this microscopic change called? 1
- b. Which part of aorta is classically involved in these lesions? 1
- c. What can be the possible outcomes of this lesion? 1

1. cystic medial degeneration
2. ascending aorta
3. aortic aneurysm or dissection

A man of 48-years suffering with fever productive cough weight loss and night sweats for the last 2 months. His chest x-ray shows right apical opacity with central cavity and enlarged hilar lymph node.





1. squamous cell carcinoma
2. TP53, CDKN2A

- 2-a. Smoking is mostly related with which Lung Carcinoma? (01)
- b. Which genes undergo mutations in the pathology seen in this gross specimen of lung? (1.5)
- c. Give histological features of this malignant lung tumor. (1.5)

3. gray white firm mass with frequent cavitation

keratin pearls and intracellular bridges, eosinophilic



- 5-a. Observe these gross specimen and name the pathological lesion. (01)
b. What is this finding seen (arrow) on microscopic examination of the same gross specimen. (01)
c. Which tumors can develop in these patients. (02)

1. Asbestosis (pleural plaques)
2. asbestos body
3. malignant mesothelioma

Respiratory system.

A 55 years old chronic smoker developed cough, weight loss of 7 kg in last few months. Lung was removed and revealed a mass involving the major bronchi. Sputum analysis was done before surgery aswell, shown below.



Q-1 what is the diagnosis. 1

Q-2 what are its major types 2

Q-3 Name one paraneoplastic syndrome associated with this .1

1. bronchogenic carcinoma
2. adenocarcinoma, squamous cell CA, small cell CA
3. Cushing's syndrome
hypercalcaemia
carcinoid syndrome
SIADH

BDS 2nd Professional
General Pathology & Microbiology
Objectively Structured Performance Evaluation (OSPE)

Unobserved station 05

Marks: 02

Time Allowed: 02min

For Candidates:

A 45 year old farmer developed a black pigmented lesion on the back of his left shoulder. Gradually it increased in size with irregular margins with shades of pigment ranging from black to dark blue to brown red. It also developed some ulceration which was resistant to healing. Clinical and histopathological pictures are given below.



Task:

Carefully read the scenario, examine the given slide/photograph and answer the following questions:

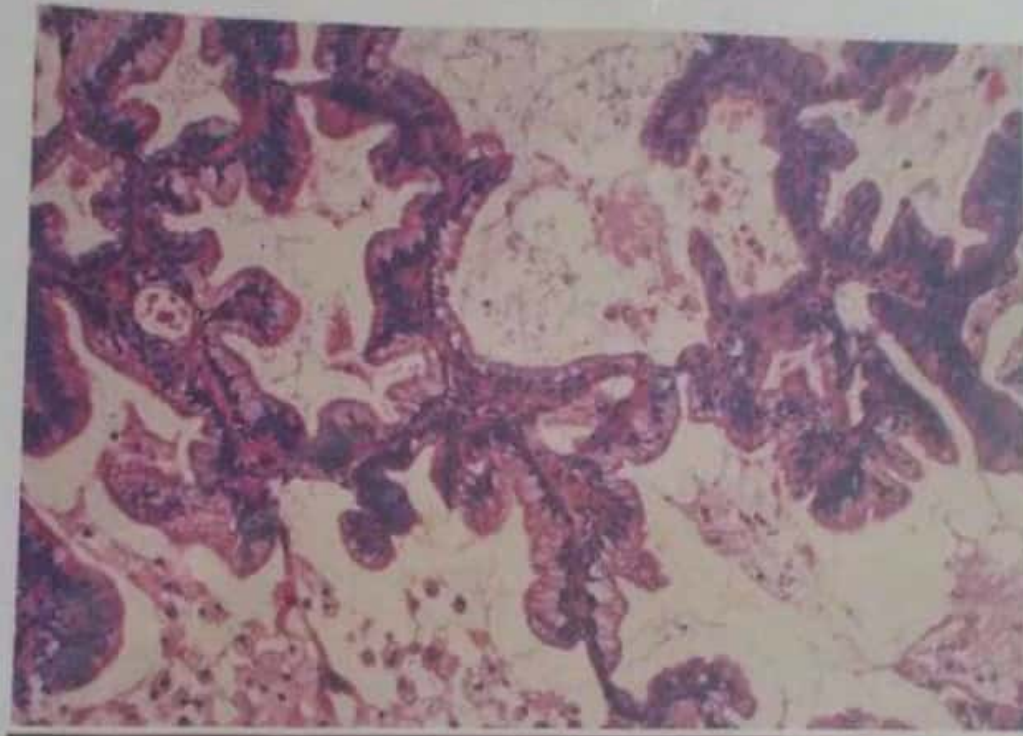
1. What is your likely diagnosis? (01)
2. Write down TWO causative factors that had role in its development. (01)

Melanoma

STATION # - 4

1. adenocarcinoma
of lung

2. TTF-1 thyroid
(transcription
factor 1)



4-a. This lepidic growth pattern of tumor in lungs leads towards what diagnosis? (01)

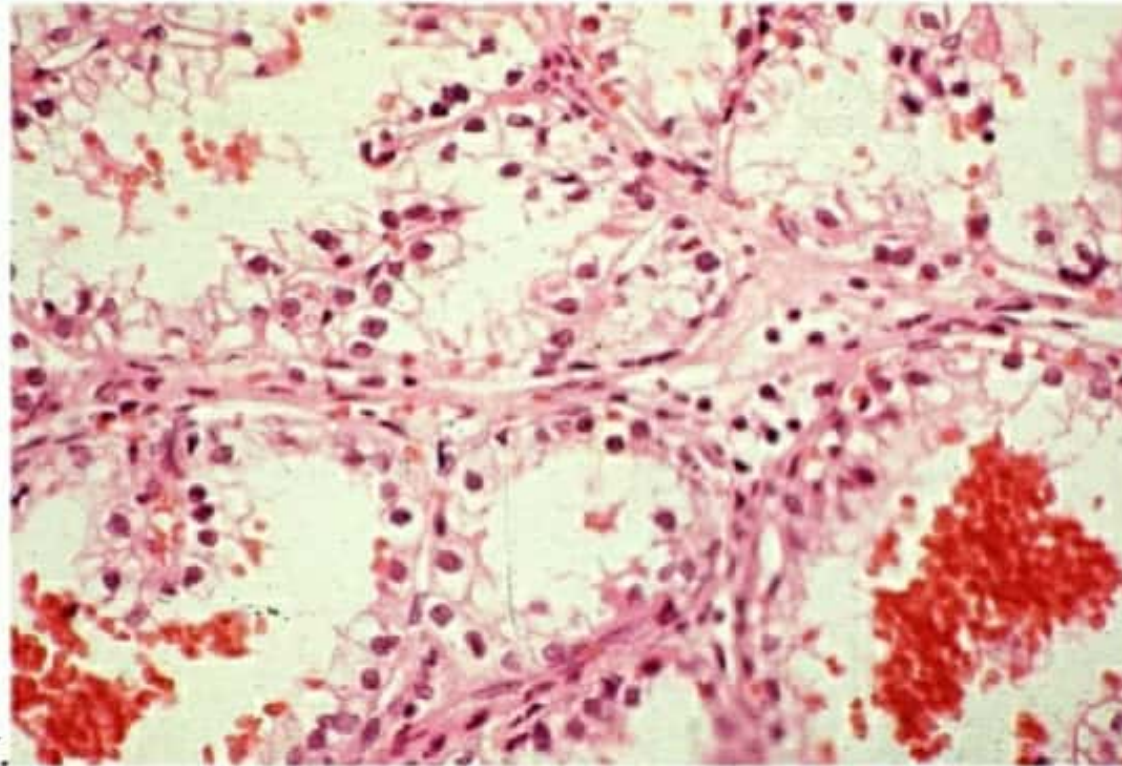
b. What is the tumor marker for Lung Adenocarcinoma?(0.5)

c. Classify Lung tumors. (2.5)
CA with pleomorphic,
sarcomatoid, or
sarcomatous elements,

SCC, SCLC, adenocarcinoma, large
cell CA, adenosquamous CA,
carcinoid tumor,

Topic renal system

Photomicrograph shows a section from a tumour from kidney of a 50 year



old male patient.

RCC

1- Give the diagnosis.

Von Hippel Lindau syndrome

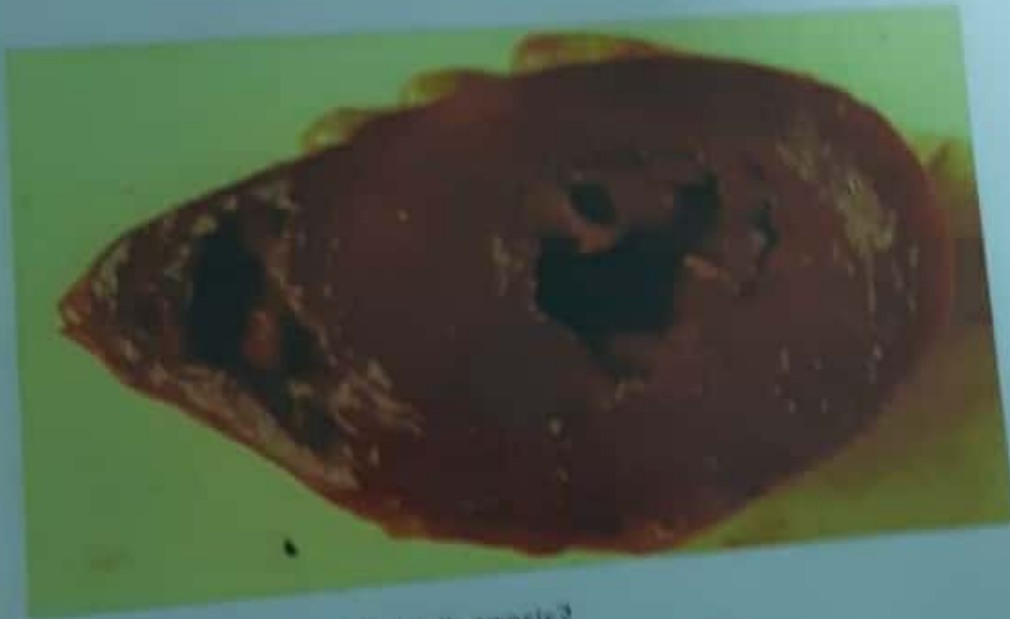
2- What hereditary syndrome is associated with this lesion.

3- Name two ectopic hormones produced by this lesion.

PTHrP, erythropoietin, renin, ACTH

1. hypertrophic cardiomyopathy
2. autosomal dominant

A 25 year old football player was playing in a match, when he felt short of breath and fell on the ground. The medical team arrived and found him unconscious. On physical examination they heard a systolic murmur. He was taken to emergency department and died while on the way.



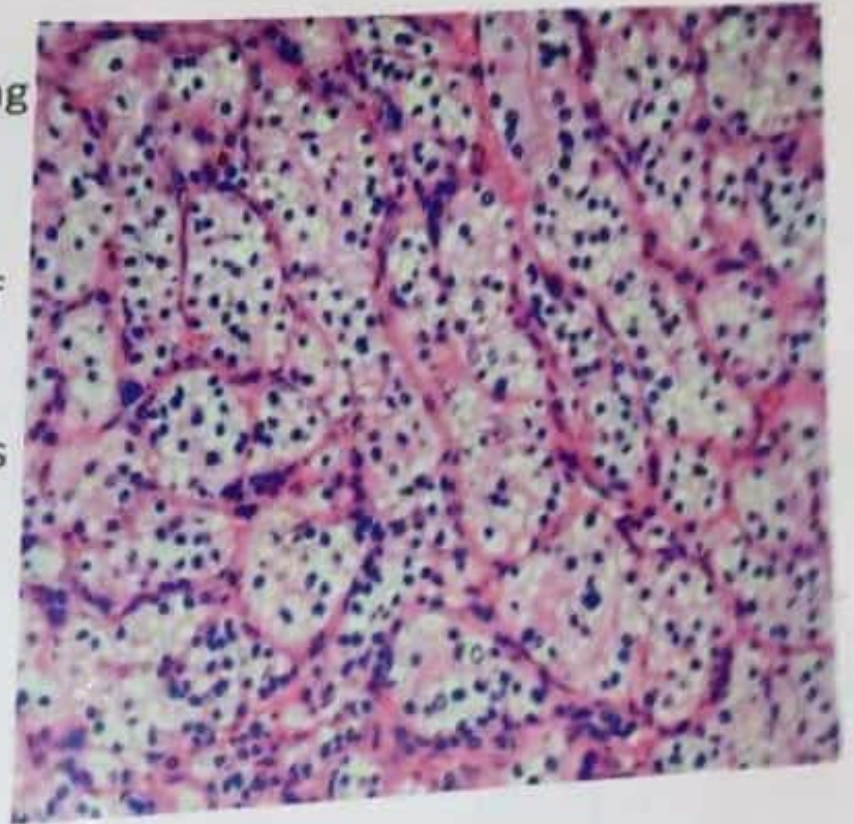
- a- What is the most likely diagnosis?
- b- What is the hereditary pattern of this disease?
- c- What is seen on biopsy of heart?

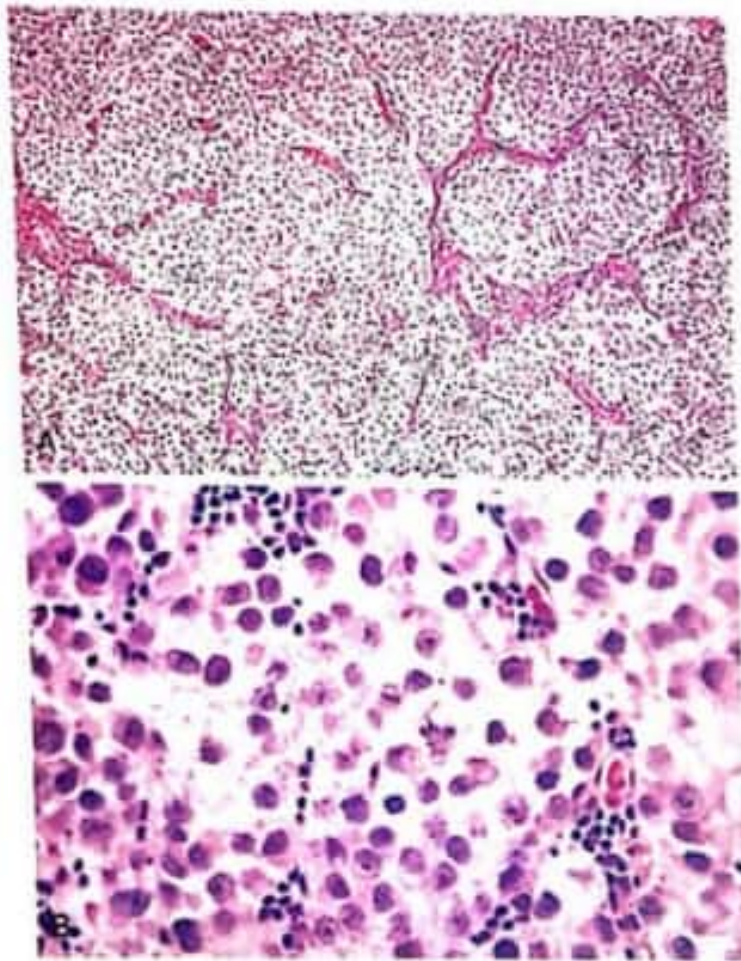
3. massive myocyte hypertrophy, myocyte disarray, exaggerated myocyte branching, interstitial and replacement fibrosis

STATION :

A 60-year-old man presents with a feeling of fullness in his abdomen and a 5-kg weight loss over the past 6 months. Laboratory studies show hemoglobin of 8.2 g/dL, hematocrit of 24%, and MCV of 70 μm^3 . Urinalysis shows 3+ hematuria, but no protein, glucose, or leukocytes. Abdominal CT scan shows an 11-cm mass in the upper pole of the right kidney. A right nephrectomy is performed, and on gross examination the mass invades the renal vein.

- 1) What is your diagnosis?
- 2) What are its types?
- 3) Describe its morphology.





You are shown a photomicrograph of a testicular tumour.

Q-1 What is the diagnosis 1

Q-2 Write down two major components of this tumour. 1

Q-3 Give Major classification of testicular tumors 2

1 seminoma

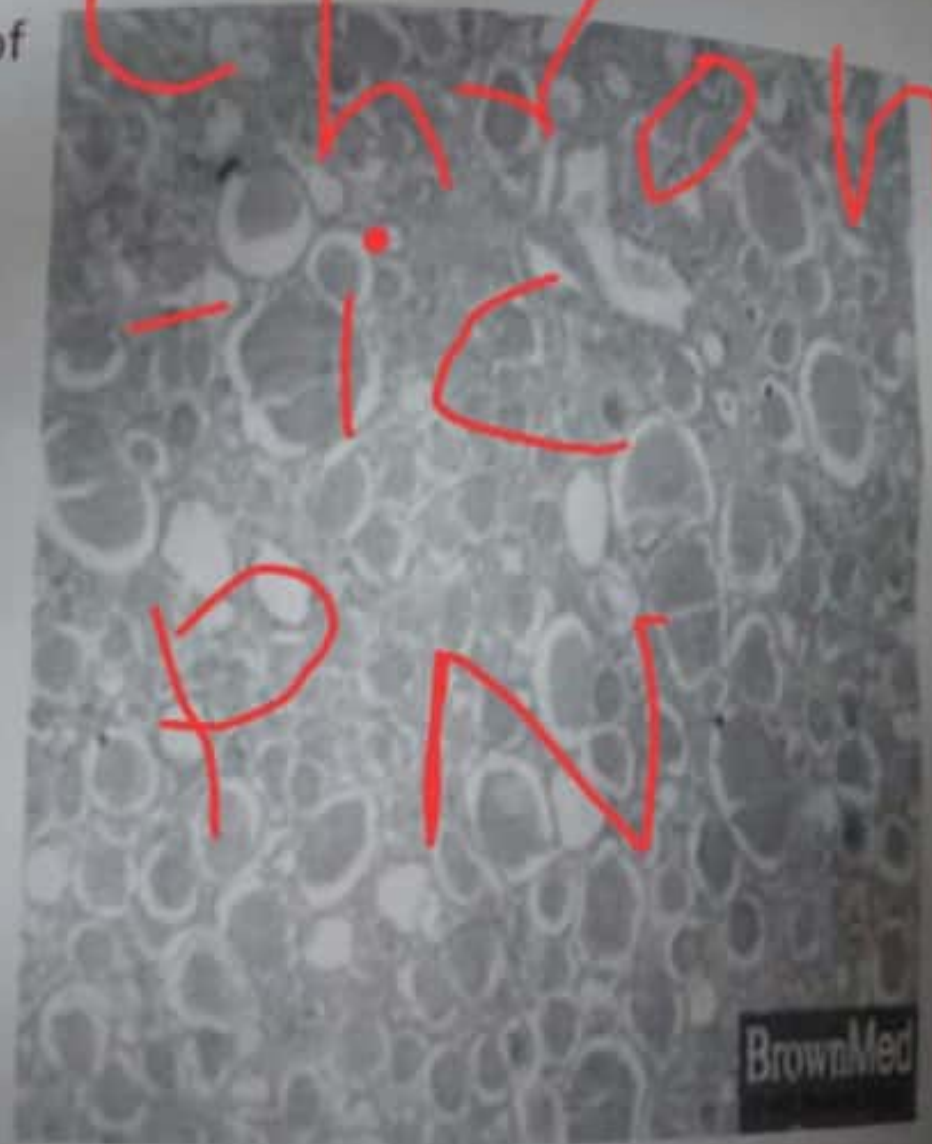
2 lobules separated by septa +
lymphocytic infiltration

and large cells with distinct cell
borders, pale nuclei, prominent
nucleoli

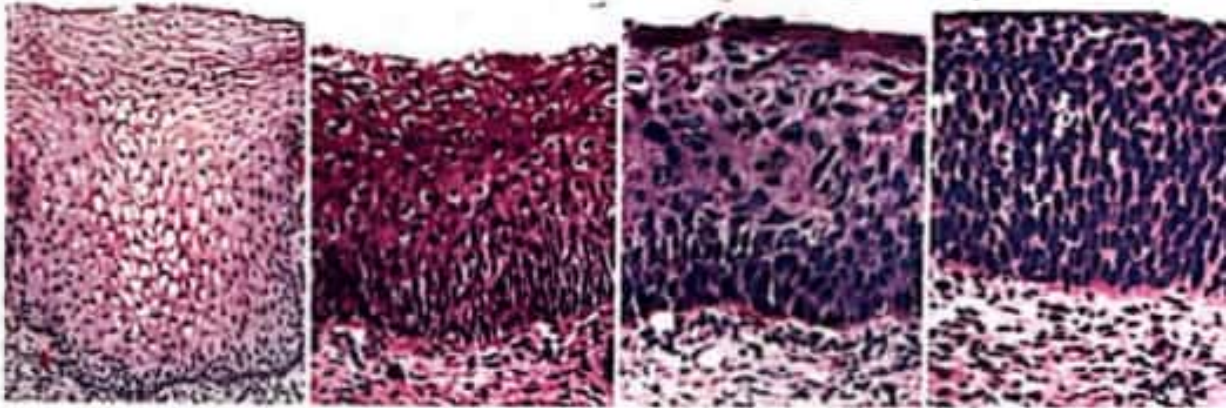
SGD:

A 30-year-old woman with a history of recurrent urinary tract infections has had a high fever for the past 3 days. On physical examination, her temperature is 38.4°C. There is marked abdominal tenderness on deep palpation. A renal ultrasound scan shows an enlarged right kidney with pelvic and calyceal enlargement and cortical thinning; the left kidney appears normal. A right nephrectomy is done, and microscopic examination is shown.

1. What is your diagnosis?
2. Describe gross/ histological features.
3. Name 2 complications.



A 35 years old sexually active lady developed a cervical growth. Pap Smear revealed atypical hyperchromatic nuclei. Biopsy is shown here and reveals spectrum of a single lesion



Q-1 Name the 3 types of lesions shown here . . . 2

Q-2 What type of carcinoma can develop in this case 1

Q-3 Name the viruses that can cause this lesion 1

1. CIN I (LSIL)
CIN II (HSIL)
CIN III (HSIL)

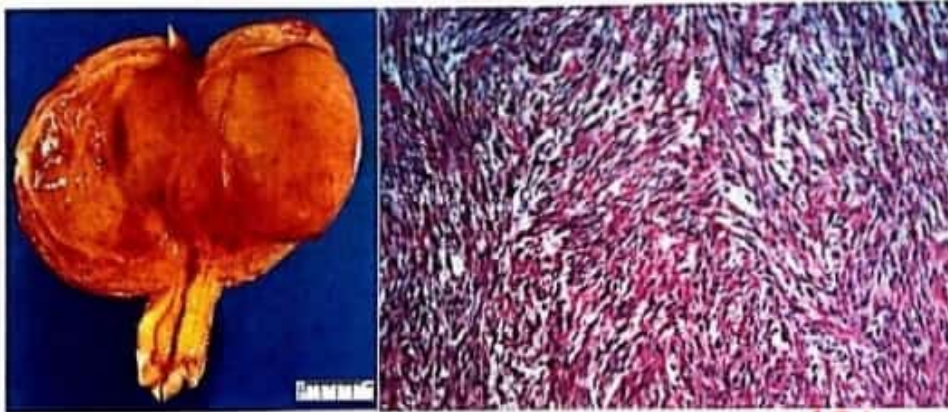
2. Cervical carcinoma

3. HPV

high risk strains (HPV-16 HPV-18

well-circ discrete round firm gray-white tumor (small to massive)
cut - whorled pattern of SM bundle
s, yellow brown to red softening

A 42 year old woman has complaints of heavy menstrual periods that last for several days. This has been occurring for the past three months and has been associated with pain and fatigue. Physical examination reveals an enlarged uterus with multiple palpable masses. Lab tests shows her Hb level is 11.3g/dl and haematocrit is 33%.

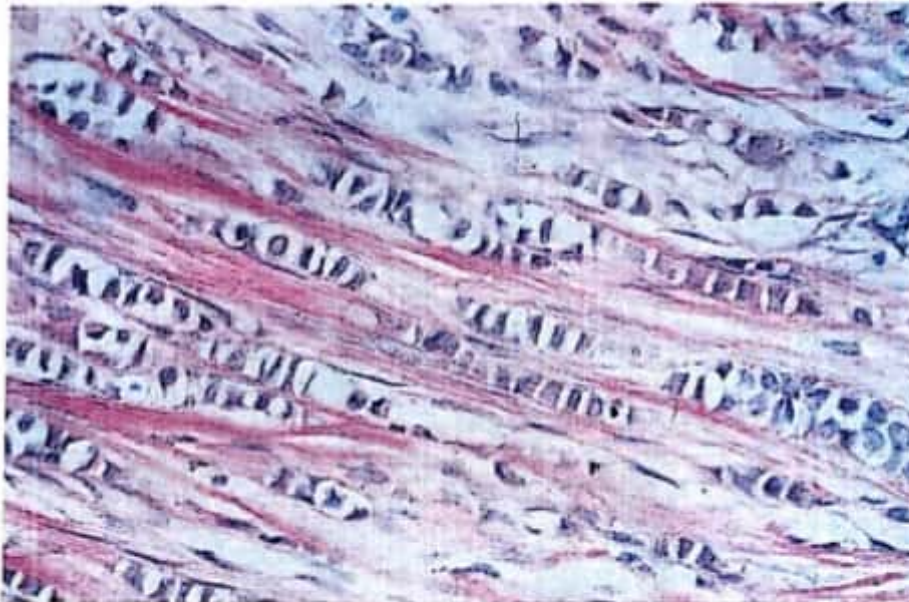


(fibroids)
leiomyoma

1. What is the most likely diagnosis? 1
2. How leiomyomas are distinguished from leiomyosarcomas and what is the importance of mitotic count. 2
- 3- what will the gross appearance of this tumor? (1)

leiomyosarcoma show cytologic atypia, well diff to highly anaplastic distinction from leiomyoma is based on : nuclear atypia, mitotic index / MI, zonal necrosis

10 or more mitosis per 10 high power (400x) field indicates malignancy



A 45 years old female presented with bilateral breast lumps. The following features are seen in the biopsy of this patient.

1. What is the diagnosis?
2. What is the name of this pattern or this arrangement of cells?
3. What is the name of the gene whose expression is lost in this tumor?

4- Name the drug used to treat this patient (1)

1. invasive lobular carcinoma
2. Indian file pattern
3. CDH1 (E-cadherin gene)
4. tamoxifen

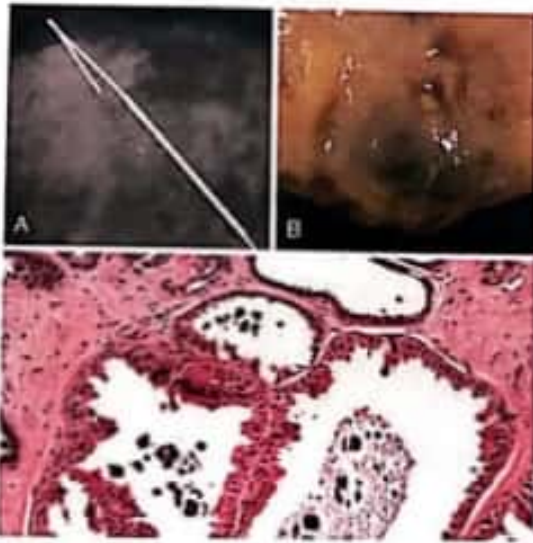
Scanned with CamScanner

A 35 years old female presented with lump in her left breast. She has a lumpy bumpy feeling in her breast. Sometimes the lump is painful. Radiography shows dense breast with cyst formation. Microscopic picture is given below.



Scanned with CamScanner

A 35 years old female presented with lump in her left breast. She has a lumpy bumpy feeling in her breast. Sometimes the lump is painful. Radiography shows dense breast with cyst formation. Microscopic picture is given below.



1. fibrocystic change of breast (apocrine cyst)
2. cysts, fibrosis, adenosis

- a- What is the diagnosis. |
- b- Give its three microscopic components. |
- c- What can be the other differential diagnosis of the lump breast at this age. |

d. what will be relative risk of malignancy progression in this particular patient? ①

relative risk - 1 (3%)

fibroadenoma, phyllodes
 lipomas, sarcomas, malignancy
 fibromatosis
 hyperplasia
 inflammation, mastitis, duct ectasia
 cysts, abscess
 sclerosing adenosis

Scanned with CamScanner

A 50 year old female presented with lump left breast. The lump was hard and fixed to the surrounding structures. Overlying nipple revealed crusting.



- and a) no type (1)
- a- What is the diagnosis? (1)
- b- What is the name of typical pattern shown above? (2)
- b- What are its other types? (2)
- c- What will be the findings on mammogr

1. comedo DCIS

2. types

comedo and non-comedo (solid, papillary, micropapillary, cribriform)

3. clustered or linear and branching

areas of calcification with

-tumor cells with pleomorphic high grade nuclei

Scanned with CamScanner

-areas of central necrosis

Ospe Station

Male Genital system

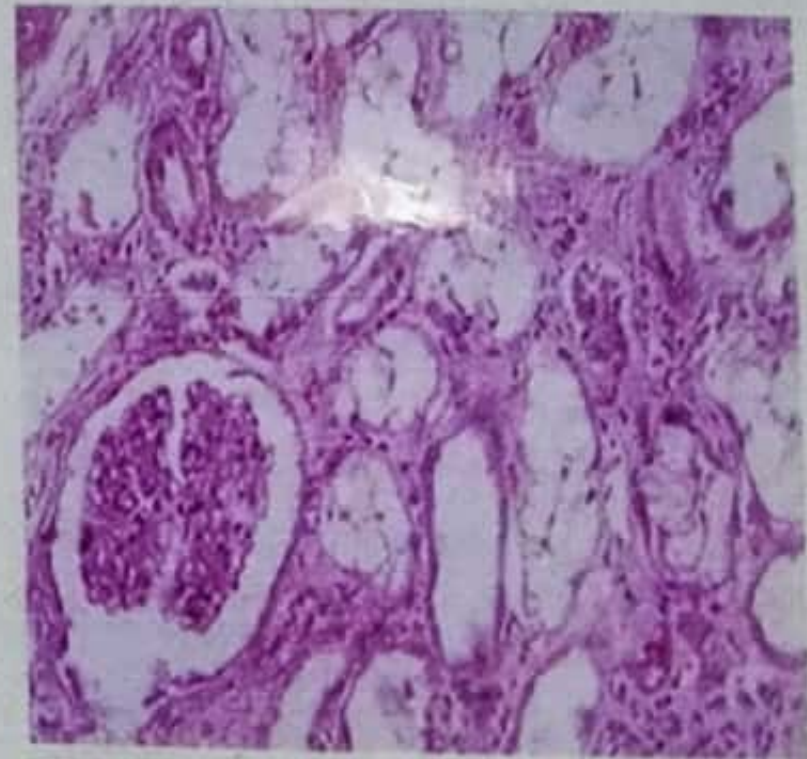
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Acute tubular injury

STATION:

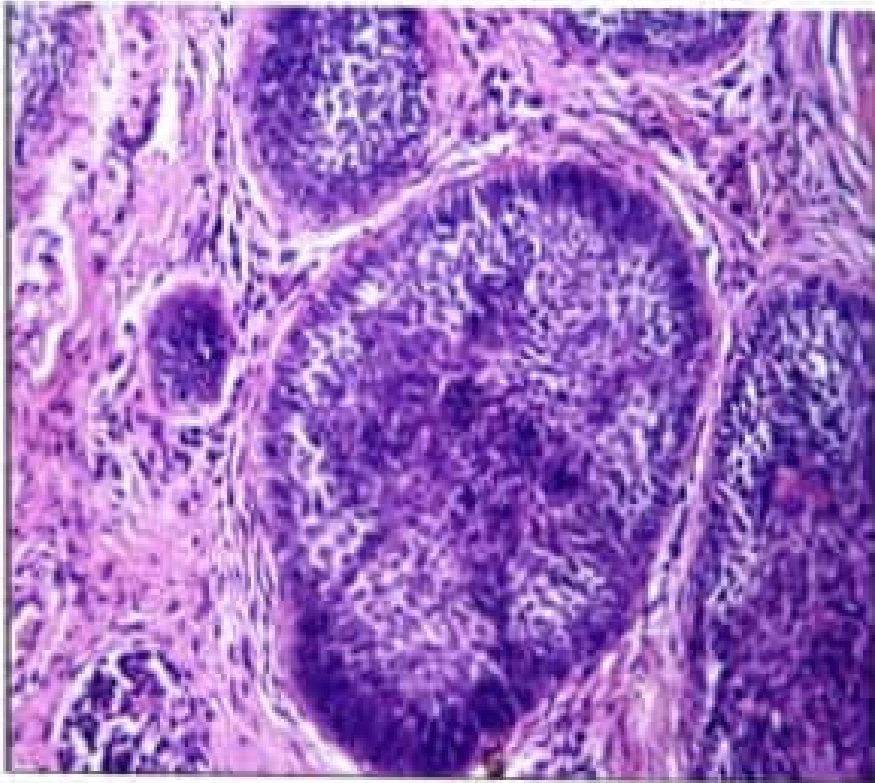
A 26-year-old man is involved in a motor vehicle accident and sustains acute blood loss. He is hypotensive for several hours before paramedical personnel arrive. They stabilize the bleeding and transport him to a hospital, where he receives a transfusion of 3 U of packed RBCs. Over the next week, the serum urea nitrogen level increases to 48 mg/dL, the serum creatinine level increases to 5 mg/dL, and the urine output decreases. He undergoes hemodialysis for the next 2 weeks and then develops marked polyuria, with urine output of 2 to 3 L/day. His renal function gradually returns to normal.

1. What is your diagnosis? 1
2. Name 2 major etiologies? 1.5
3. Name 3 stages of its clinical course. 1.5



SKIN SGD 5

A 60 years male noticed slowly enlarging nodule on his nose. On physical examination the nodule is pearly white and 1cm in diameter. The lesion is excised and microscopy is shown in the picture.



What is the diagnosis?

BCC

What are its characteristic features?

What are its various types?

Is it benign or malignant?

malignant

pearly papules with prominent dilated subepidermal blood vessels (telangiectasias), may ulcerate, 2 patterns: multifocal growth + nodular lesions
superficial

Skin SGD (MALIGNANT MELANOMA)

A 65 years male has lesion on face that has enlarged over last 6 years. On examination 4 cm lesion has irregular border and irregular brown to black pigmentation. The lesion is resected and radial growth of large brown cells is seen in the epidermis and superficial epidermis.



What is the diagnosis?

What are the different types of Nevi?

junctional, compound, intradermal

What is BRESLOW thickness?

What are the pigmented skin diseases?

depth of invasion of melanoma which is the distance from superficial epidermal granular cell layer to the deepest intradermal tumor cells

freckles, lentigo, melanocytic Nevi (pigmented Nevi, mole), dysplastic nevi, melanoma

B

I

U

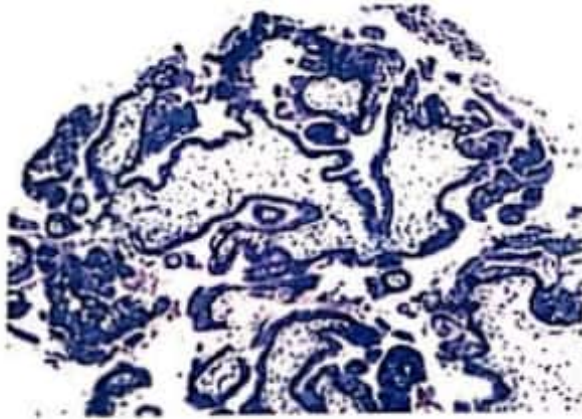


A



A 35 years old female presented with spontaneous miscarriage. Beta HCG level is found to be markedly raised. Microscopic examination reveals hydropically enlarged villi with circumferential trophoblastic proliferation. No fetal parts are seen.

GROSS EXAMINATION:- Grape-like clusters.

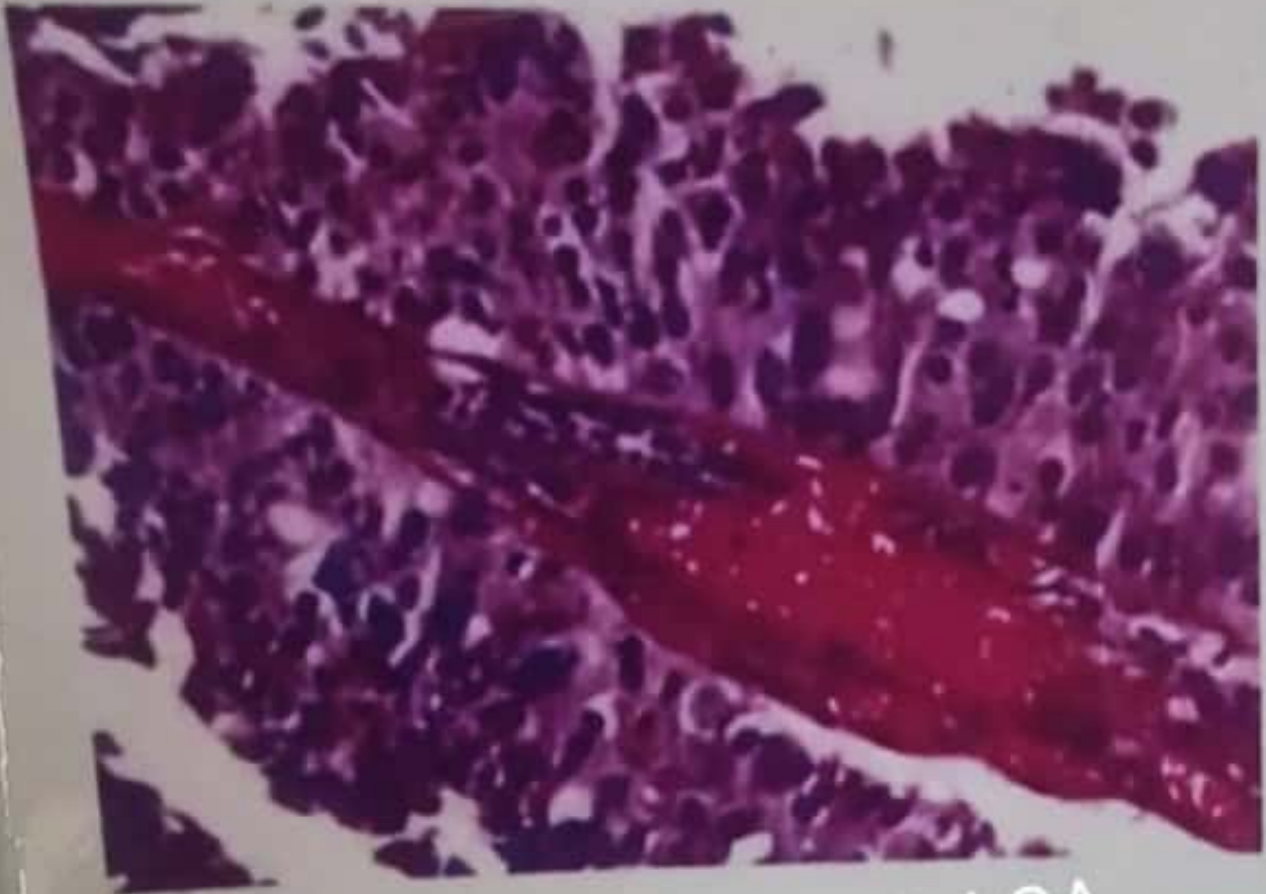


Q-1 What is the diagnosis. 1

Q-2 What are its types 2

Q-3 What malignancy is associated with raised Beta HCG levels.

1. complete hydatidiform mole
2. complete mole, partial mole, invasive mole
3. choriocarcinoma



papillary urothelial CA

You are shown a urinary bladder growth in above two pictures.

Q-1 What is the diagnosis ?

Q-2 Give WHO classification of Urinary bladder carcinoma 3

2. clear cell CA, papillary CA, chromophobe CA, Xp11 translocation collecting duct (Bellini's duct) CA

3. clear cell carcinoma

4. grossly bright yellow to white, solid, trabecular or tubular growth pattern, round/polygon cells with clear granular cytoplasm, delicate branching vasculature, solid + cystic areas

as

A 60-year-old man presents with a feeling of fullness in his abdomen and a 5-kg weight loss over the past 6 months. Laboratory studies show hemoglobin of 8.2 g/dL, hematocrit of 24%, and MCV of 70 μm^3 . Urinalysis shows 3+ hematuria, but no protein, glucose, or leukocytes. Abdominal CT scan shows an 11-cm mass in the upper pole of the right kidney. A right nephrectomy is performed, and on gross examination the mass invades the renal vein.

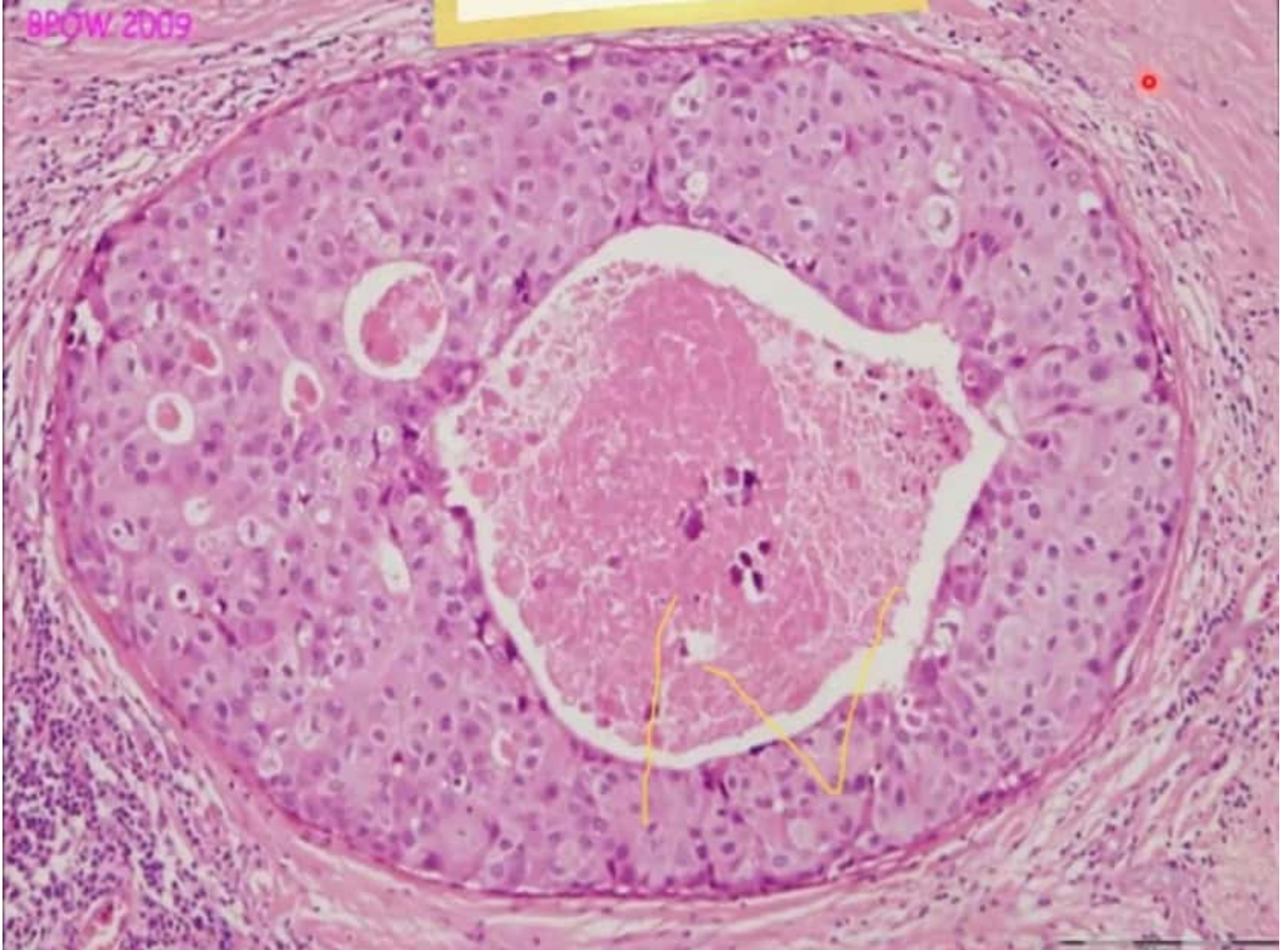


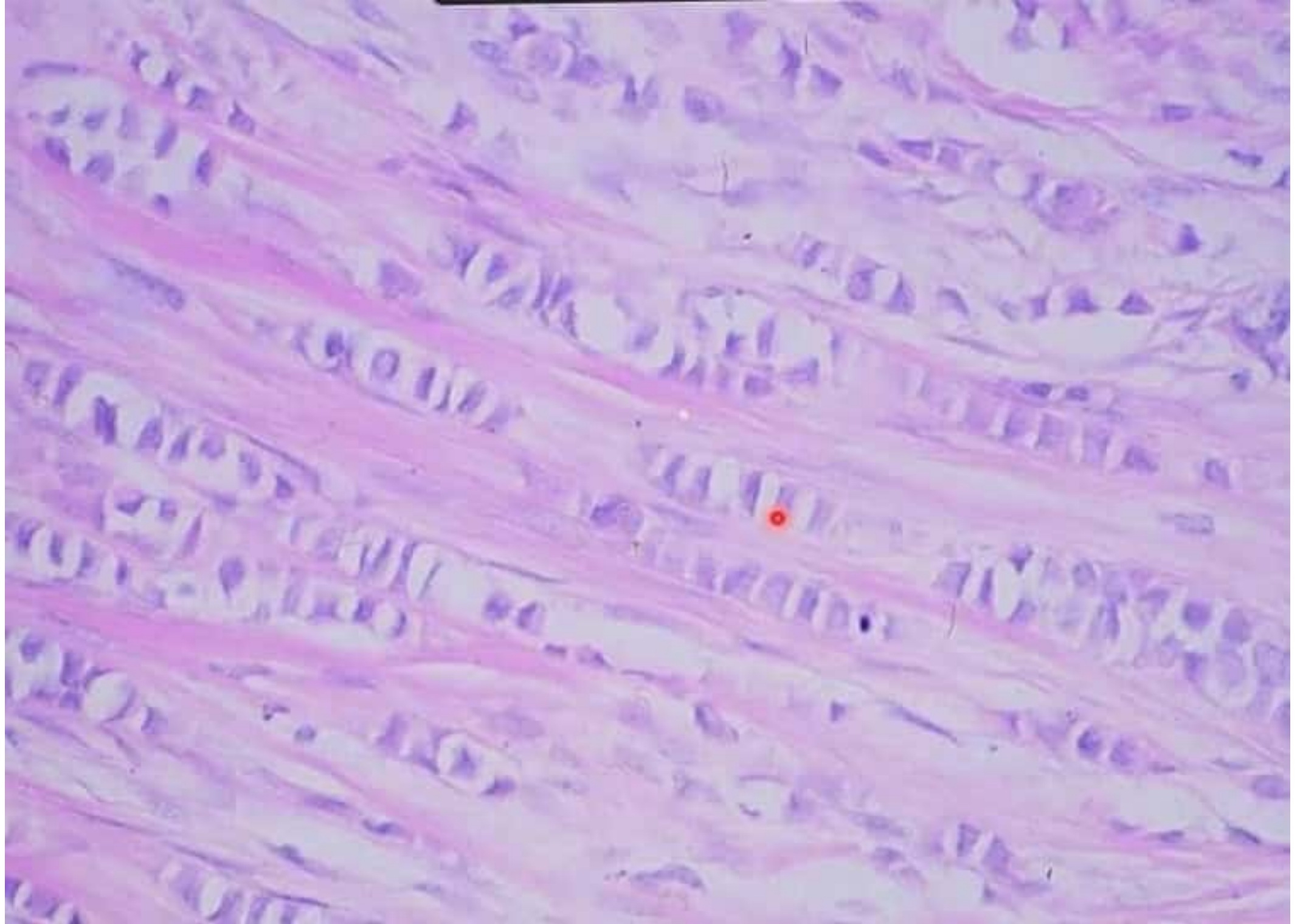
RCC

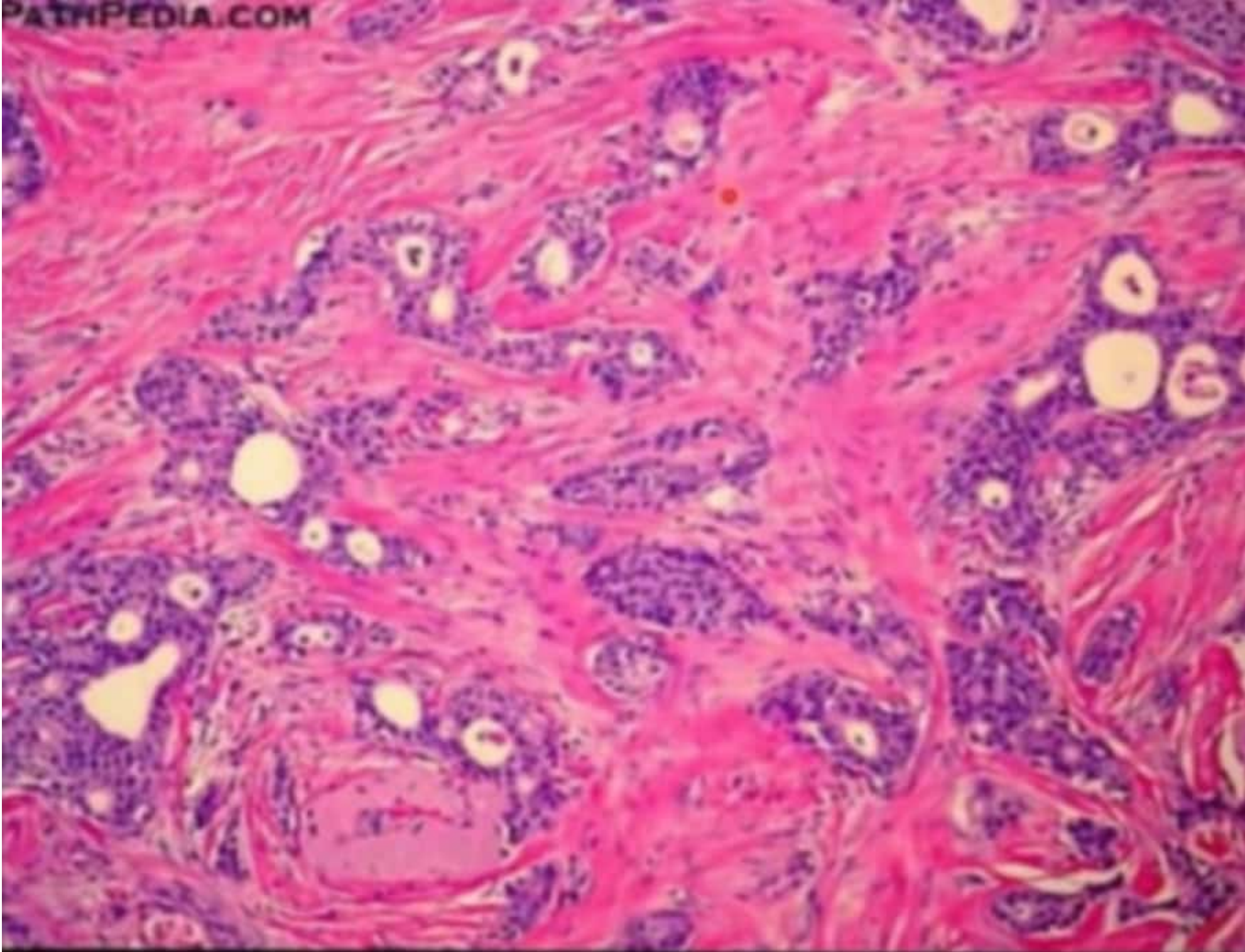
- 1) What is your diagnosis?
- 2) What are its types?
- 3) What is the most common type?
- 4) Describe its morphology.
- 5) What are the syndromes associated and their gene involvement?

-Von Hippel Lindau (VHL gene)
-hereditary leiomyomatosis and renal cell cancer syndrome (FH gene)

8POW 2009







SGD:

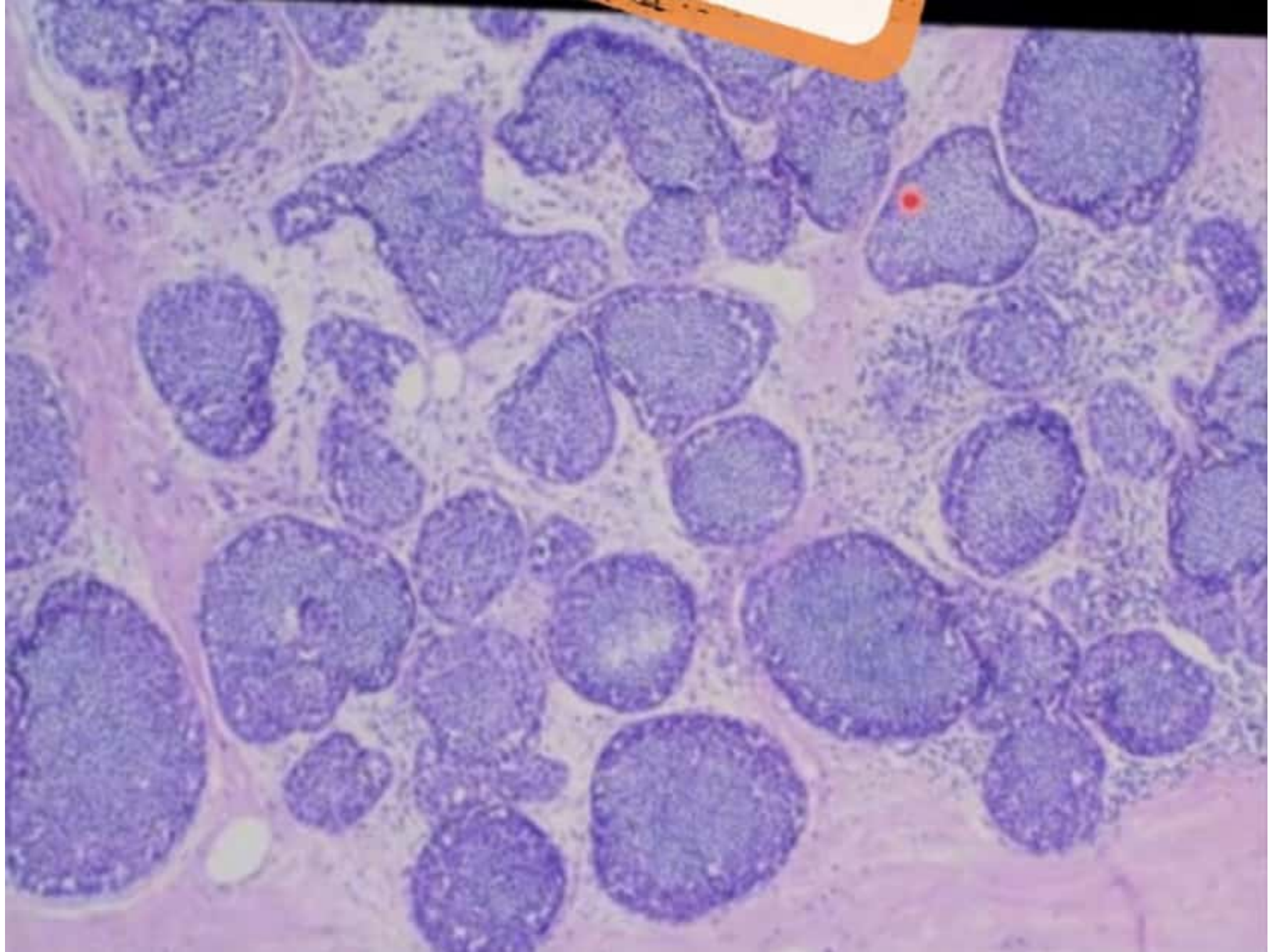
19-year-old woman has had a fever and chills accompanied by right flank pain for the past 3 days. On physical examination, her temperature is 38.3°C, her blood pressure is 150/90 mm Hg, and there is right costovertebral angle tenderness. Laboratory findings show a serum glucose level of 77 mg/dL and creatinine level of 1 mg/dL. Urinalysis shows a pH of 6.5; specific gravity 1.018; and no protein, blood, glucose, or ketones. Microscopic examination of the urine shows many WBCs and WBC casts.

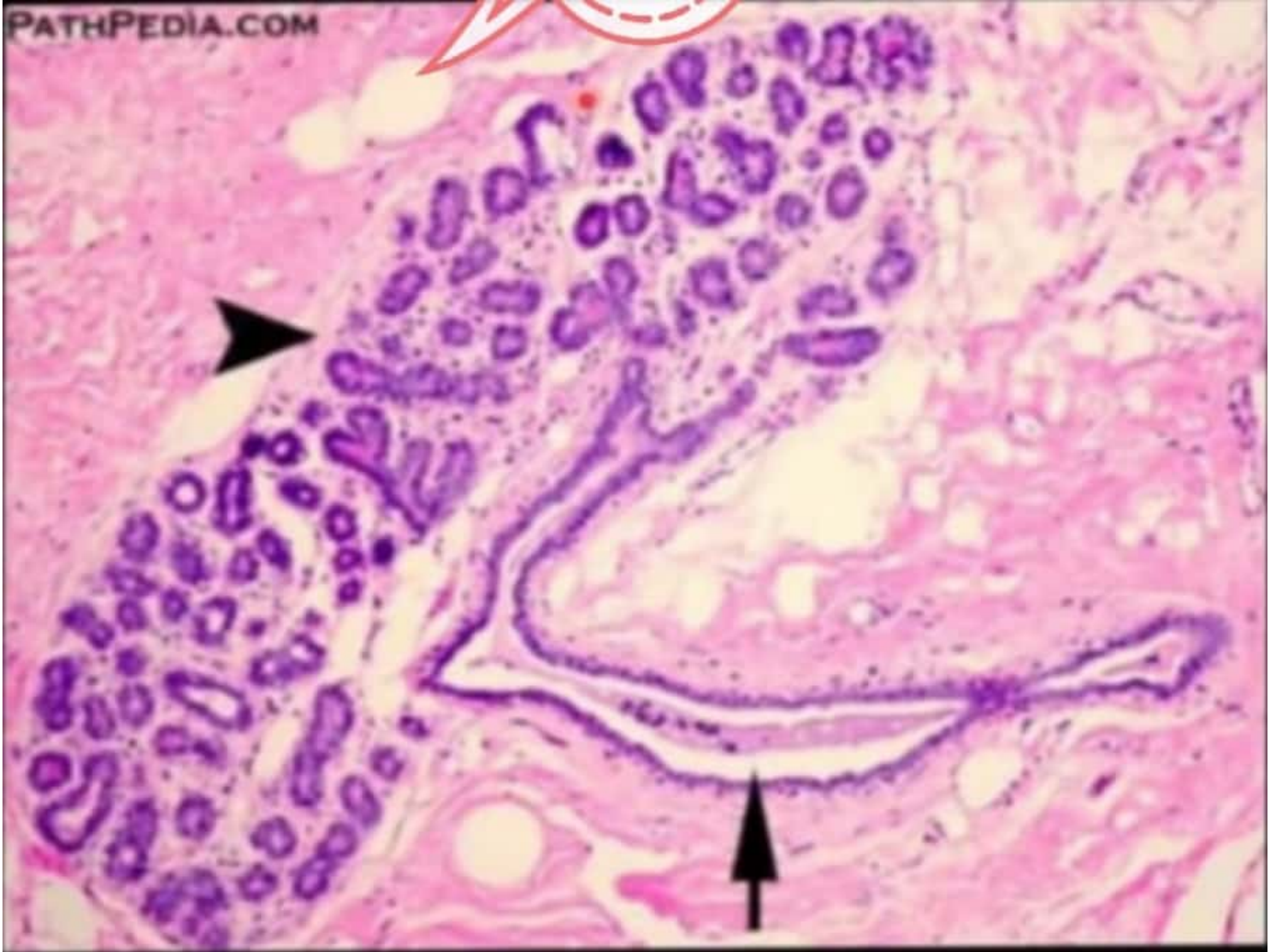
1. What is your diagnosis? *Acute Pyelonephritis*

Hematology
Asandya Raje 2. Name 2 routes of infection with commonly involved organisms.

3. Enlist predisposing factors..









A 32 years old male with long standing speech difficulties and tremors. Lab tests also show elevated liver enzymes, decreased serum ceruloplasmin, increased hepatic copper and urinary copper. On examination the above finding is noted in the eyes of the patient. Liver biopsy shows hepatocyte ballooning and Mallory denk bodies.

Wilson's disease

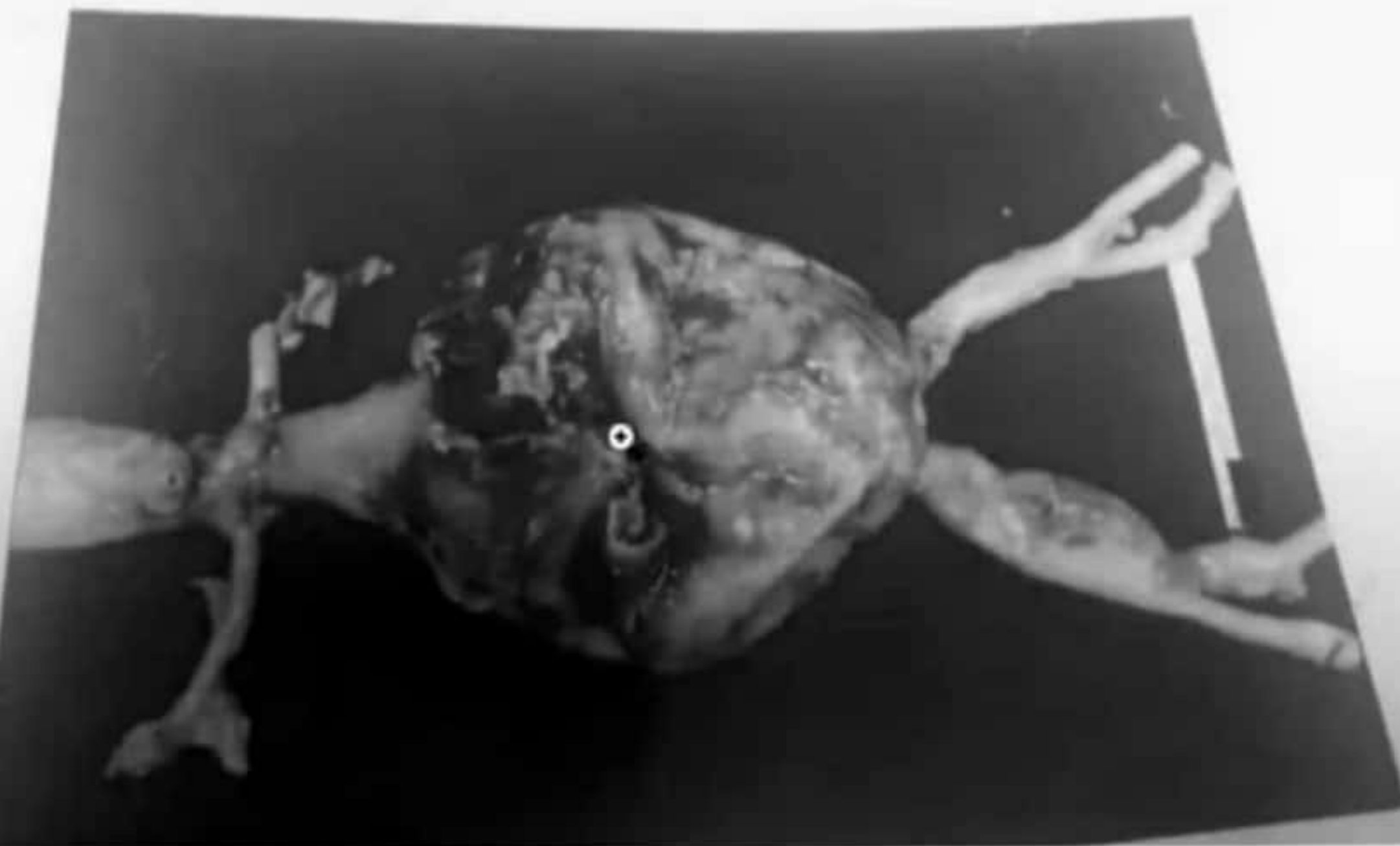
abdominal aortic aneurysm

tsApp

x +

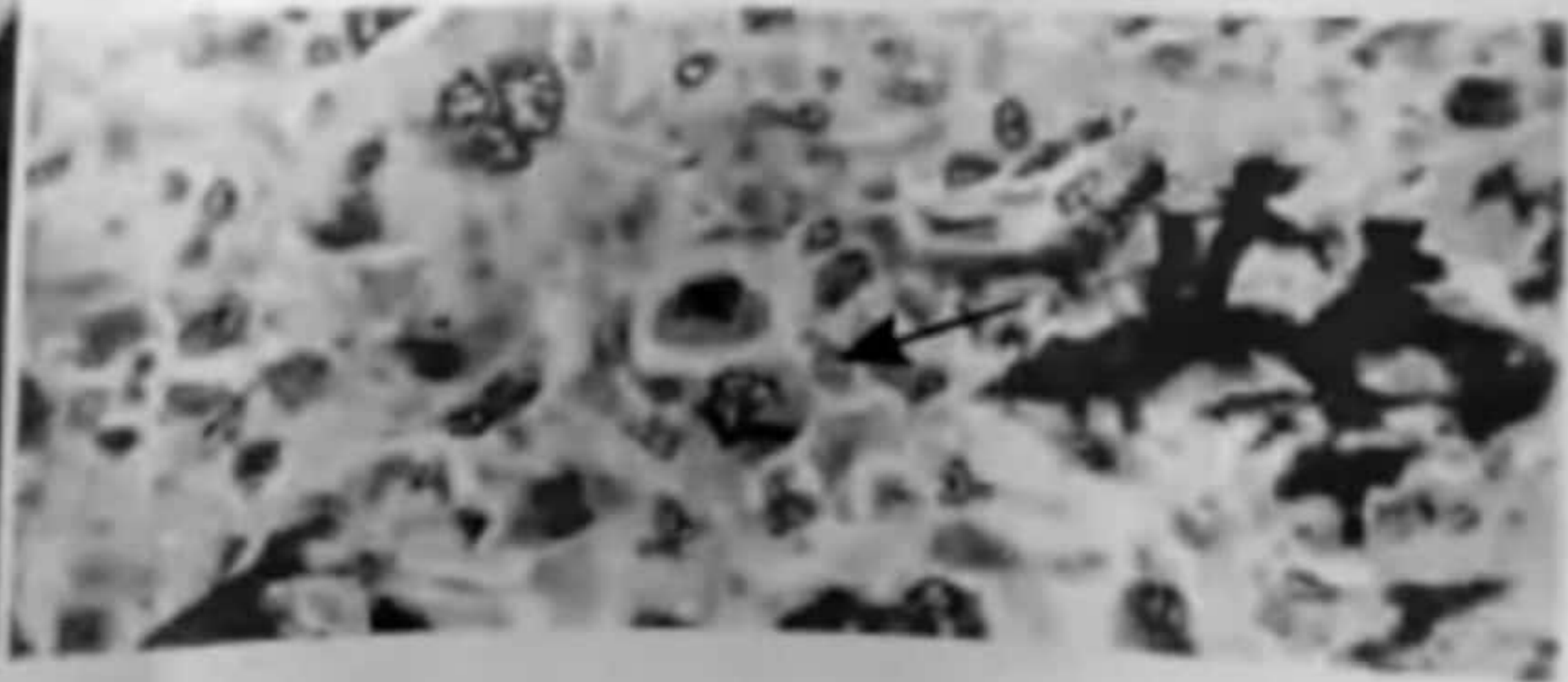
ok  Johns Hopkins Surg...  YouTube  Pathology Outlines  K! Kahoot! - My Kaho...

A 60 years old known hypertensive who is also a chronic smoker went for routine medical checkup and found to have a pulsating abdominal mass. Few days later he died because of massive haemorrhage. Autopsy findings revealed the following changes in aorta.



osteosarcoma

A 15 year old boy presented with a mass involving Knee joint. The tumour extended to soft tissues and on X ray revealed lifting of periosteum with formation of Codman's triangle. The tumour cells produced pink lacy material.



Q 1 what is the diagnosis 1

pAp



This is the gross picture of a 19 year old boy who underwent colectomy. The mucosa is studded with more than hundred polyps, one of them turns out to be an adenomatous polyp.

pap with multiple polyp



This is photomicrograph of a 19 year old boy who underwent colectomy. The mucosa is studerd with more than hundred polyps, one of them turns out to be an adenomatous polyps.

intestinal metaplasia

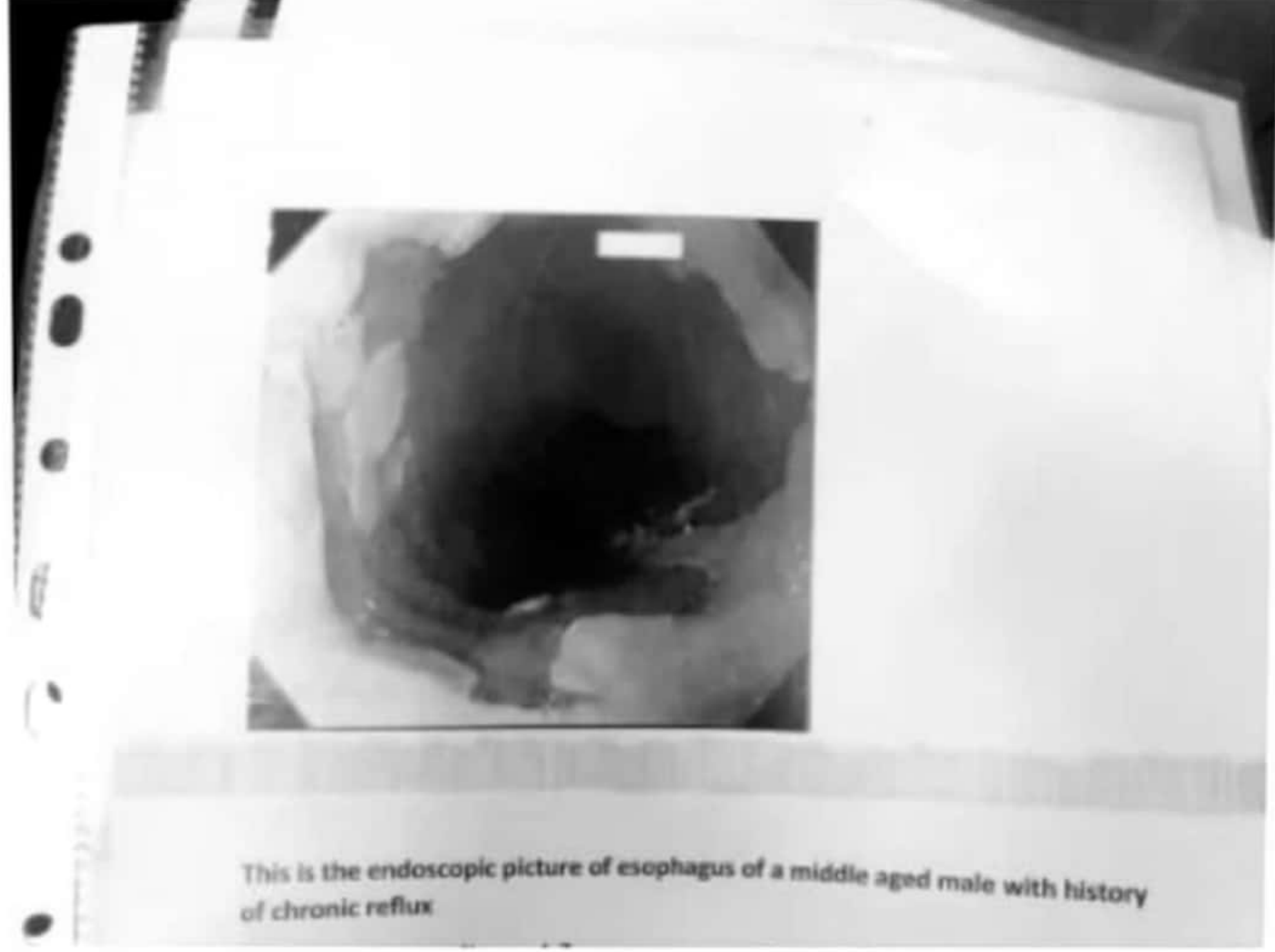
Hopkins Surg...

YouTube

Pathology Outlines

Ki Kuroki - My Kahnd...

goblet cells



This is the endoscopic picture of esophagus of a middle aged male with history of chronic reflux

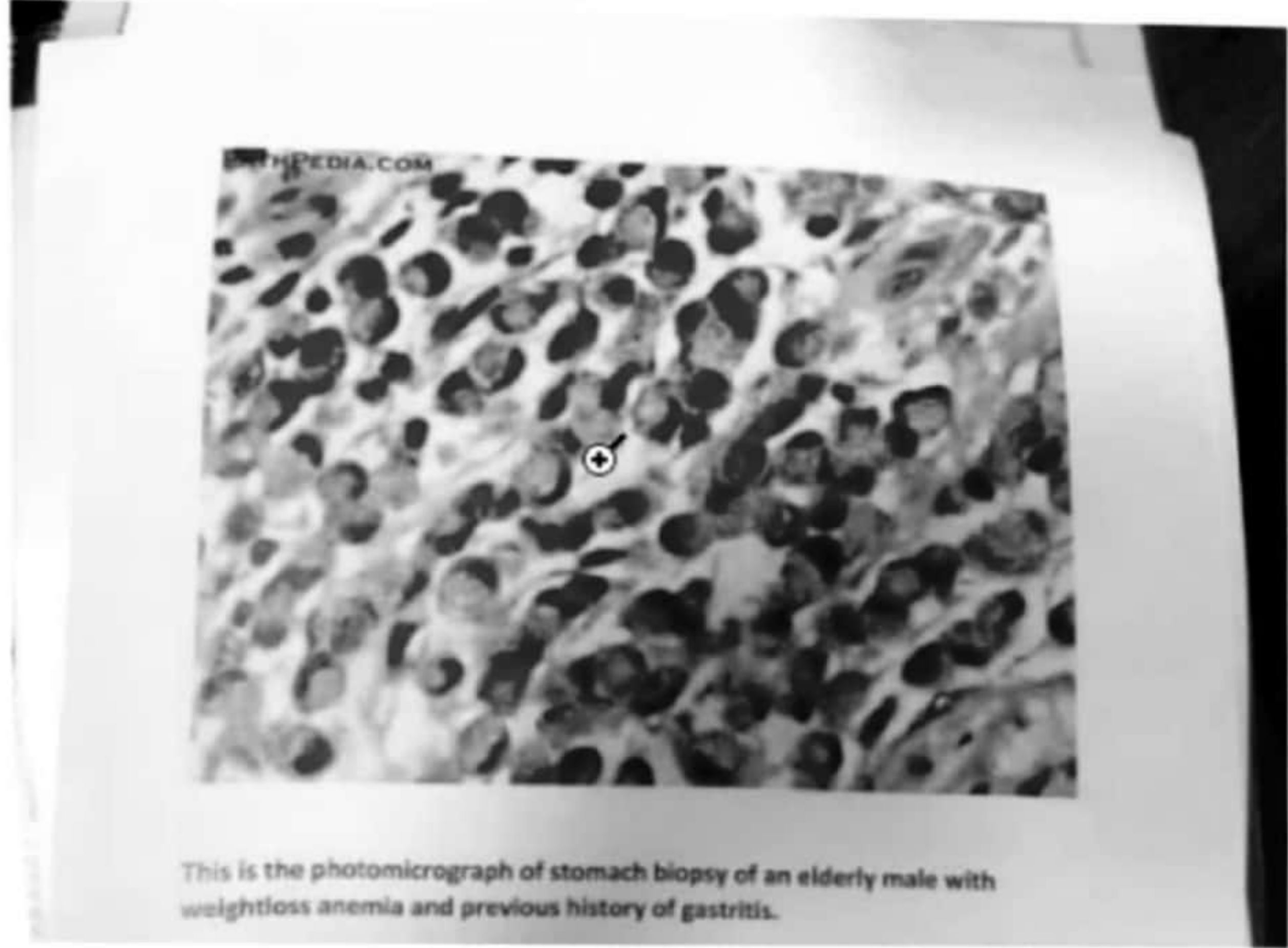
diffuse gastric carcinoma

pp

X

+

:  Johns Hopkins Surg...  YouTube  Pathology Outlines  Kahoot! - My Kaho...

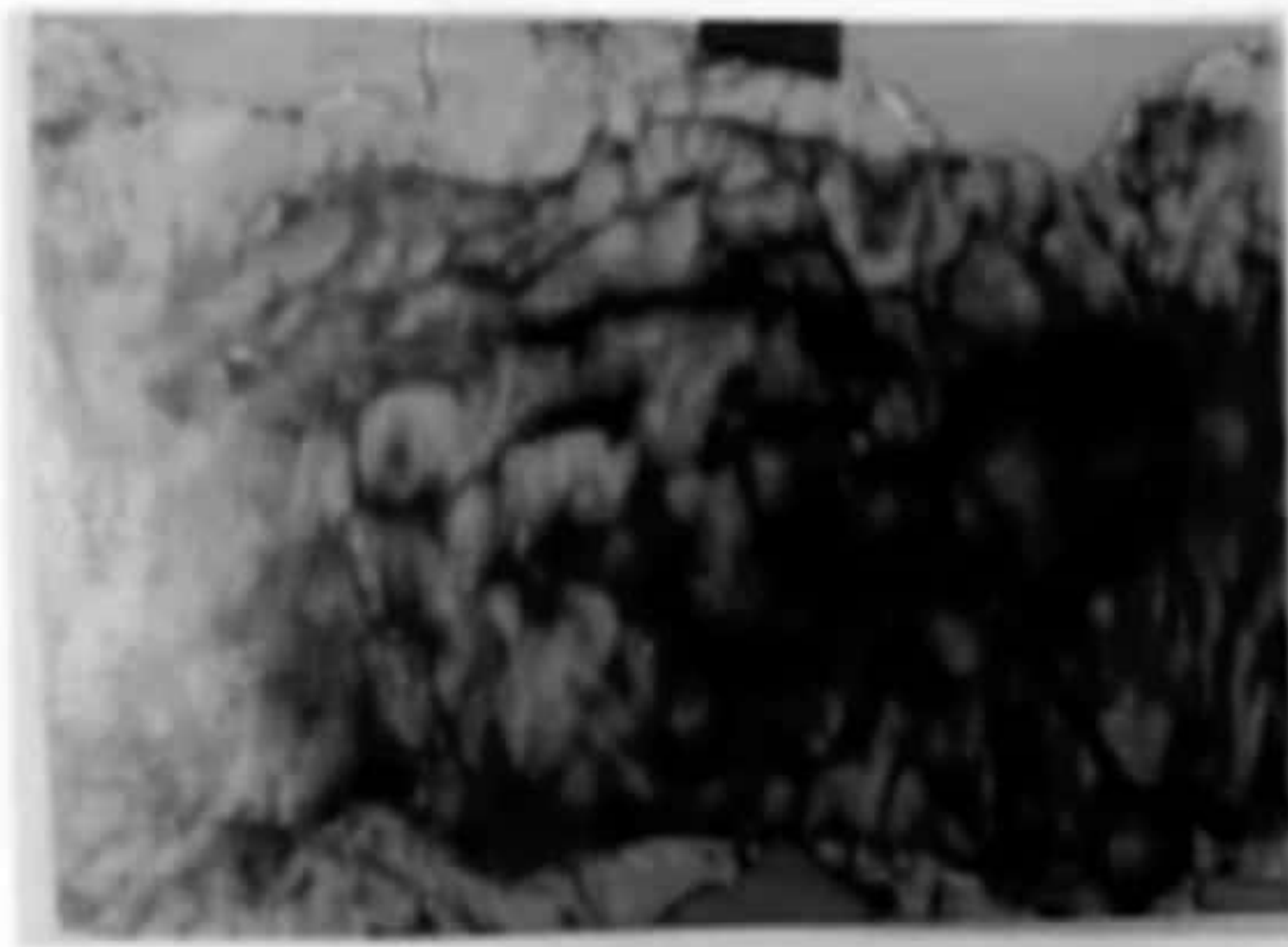


celiac disease ●●



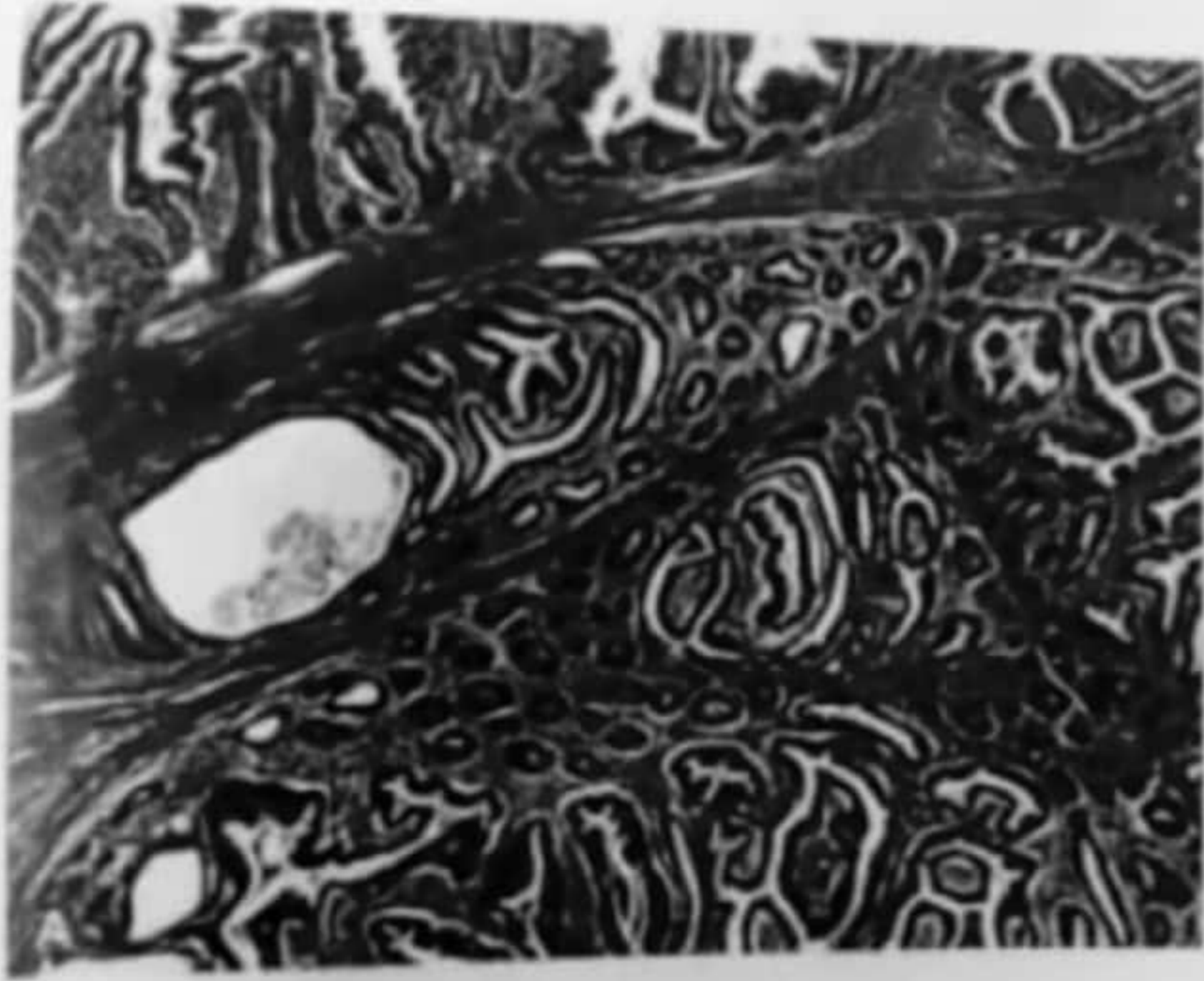
A concerned mother brings her 4 yr old daughter to the doctor with the complaint of bloating, diarrhoea, failure to thrive and weightloss. On lab findings she was found to be anemic and antibodies in the serum were detected. the doctor advised small gut biopsy which showed the above picture.

chrons disease



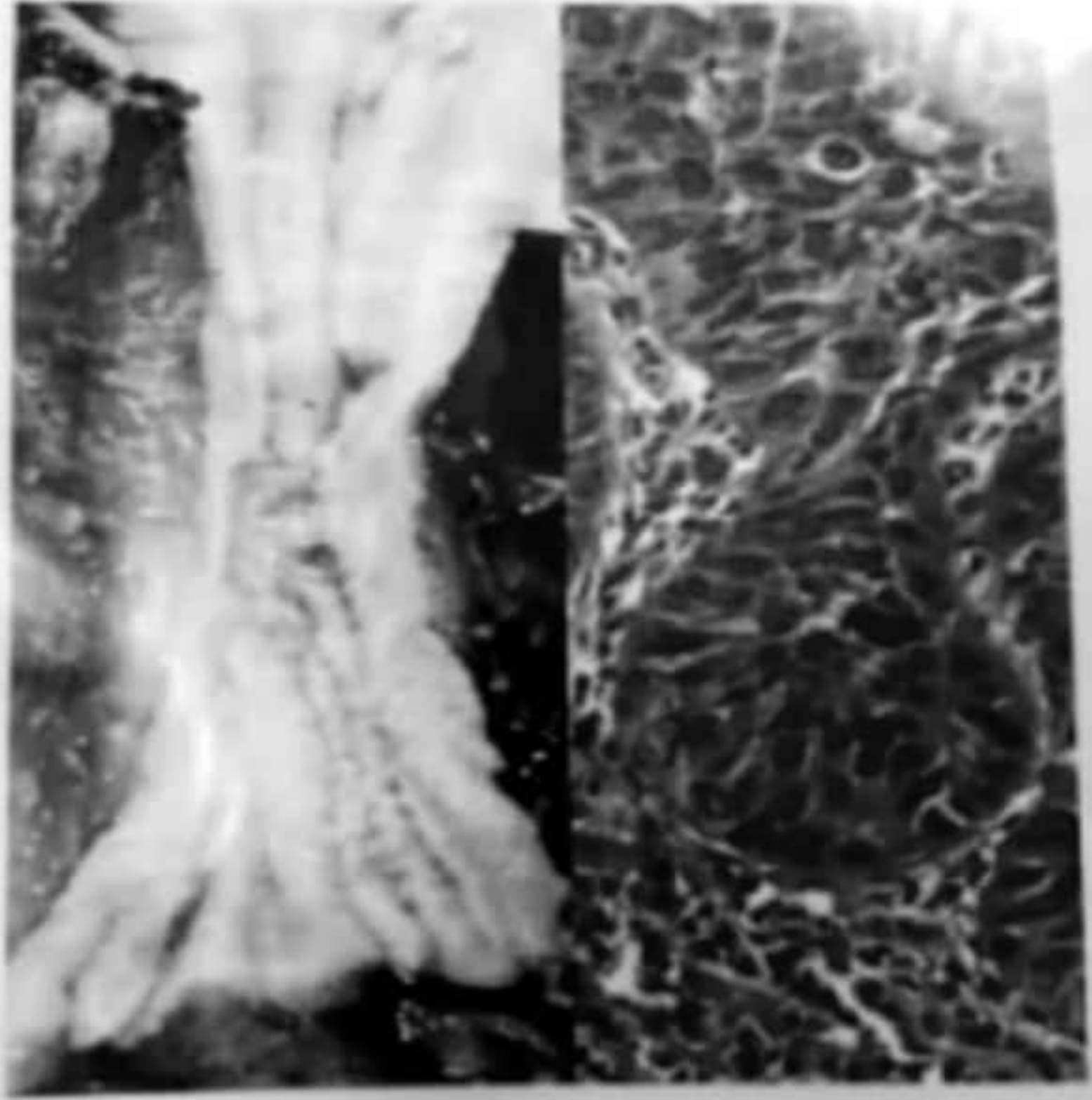
Opened colon from a 23 year old female who presented with bloody diarrhoeal episodes lasting a week at a time. It shows many longitudinal ulcers with red hemorrhagic bases, thickened wall, skip lesions giving a cobblestone appearance,

putz jeghrz syndrome mutation and morphology



This is the histological picture of a 10 years old boy with multiple hamartomatous polyps and mucocutaneous pigmentation

esophageal carcinoma



Above is the gross and the microscopic picture of esophagus of a young male with history of chronic smoking and alcohol consumption



H pylori infection warthin stain for it



YouTube

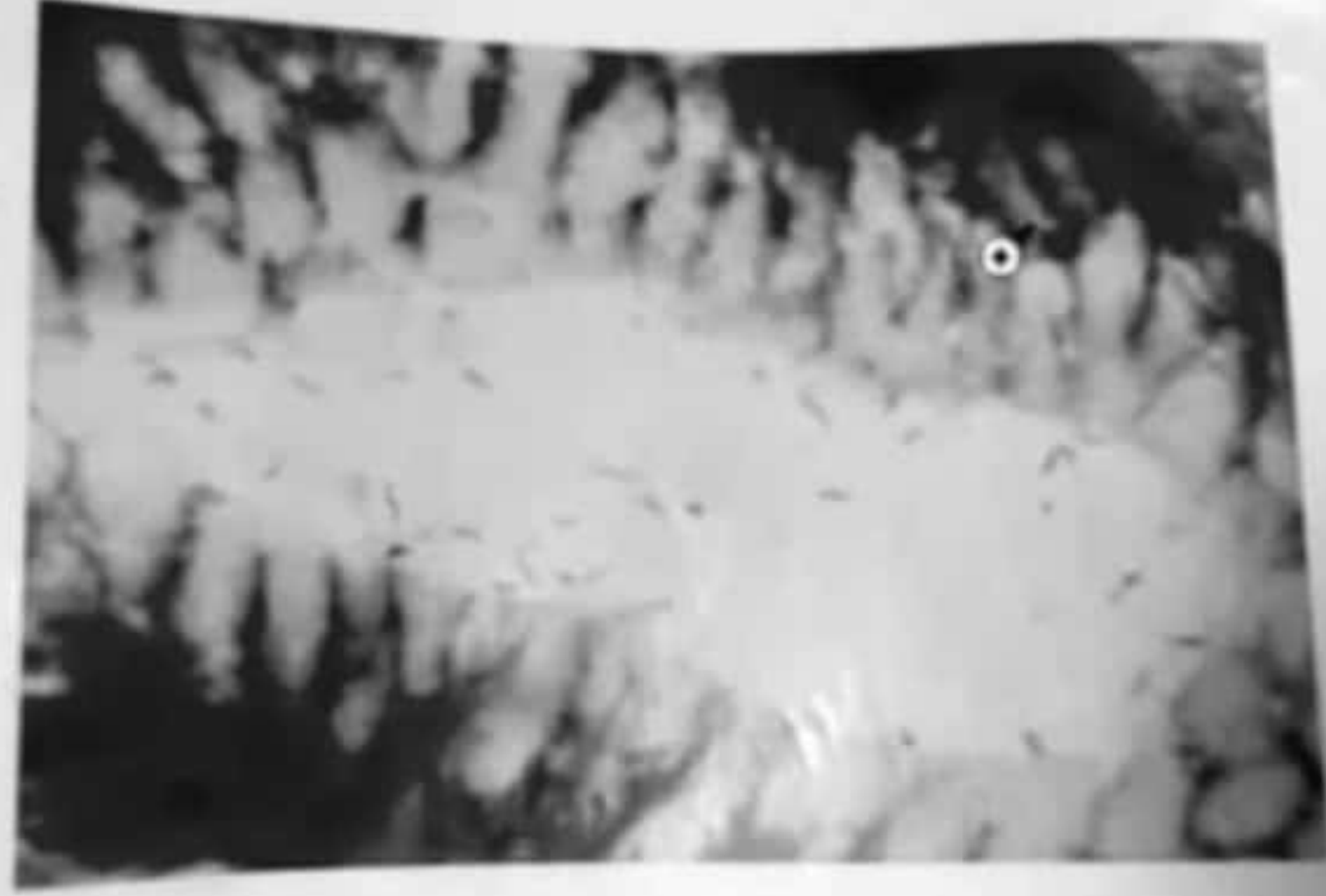


Pathology Outlines

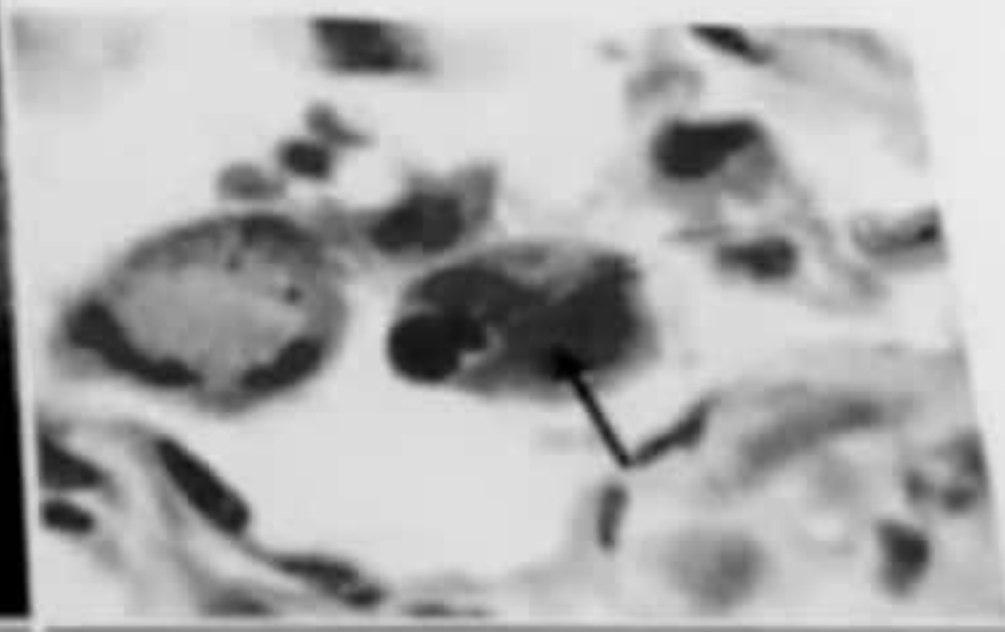
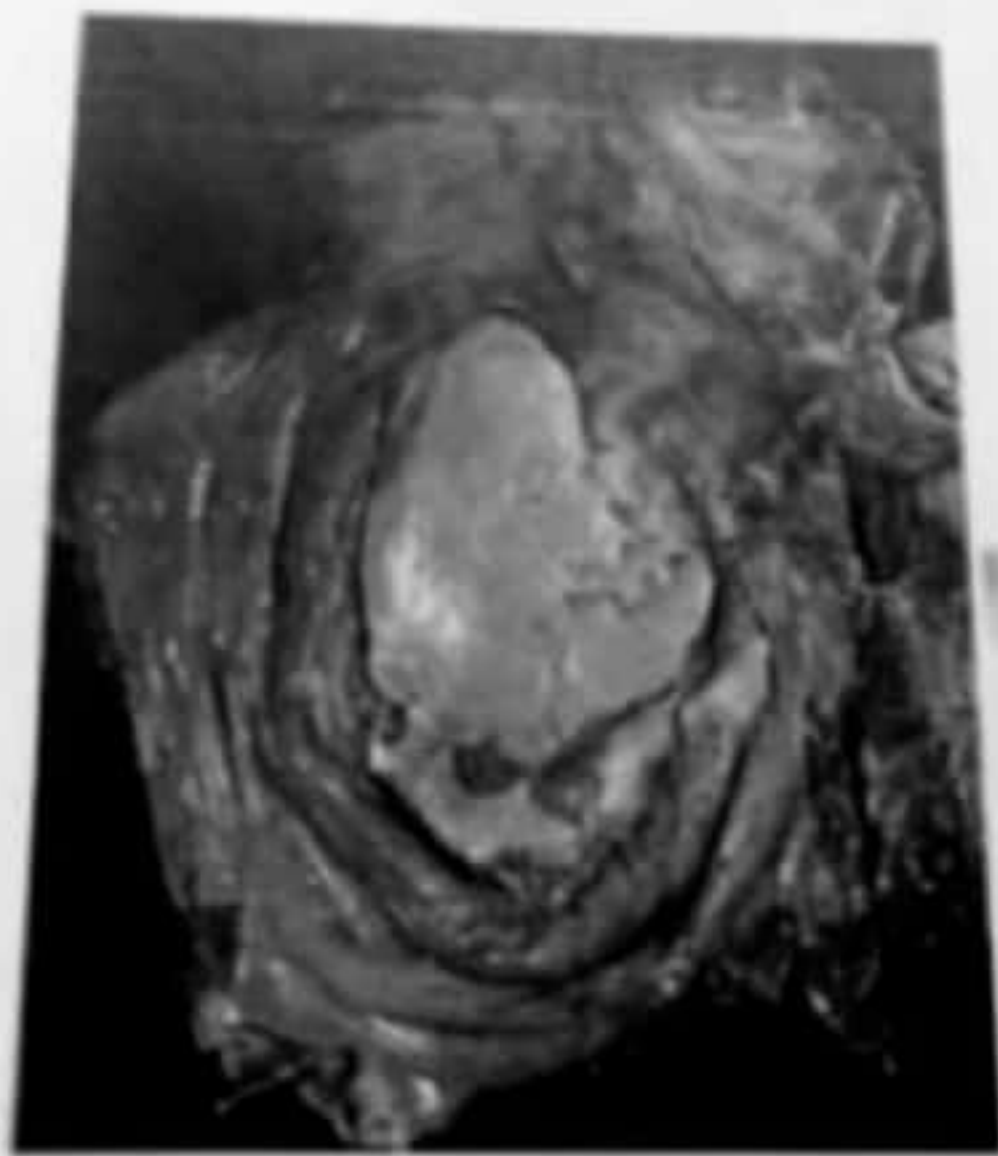


Kahoot! - My Kahoot...

This is the microscopic high power view of antral biopsy of a 35 years old male with history of heartburn and dyspepsia. A suspicion of gastritis is made.



Asbestosis



lung cancer

OSPE STATION

Respiratory system.

A 55 years old chronic smoker developed cough, weight loss of 7 kg in last few months. Lung was removed and revealed a mass involving the major bronchi.

Sputum analysis was done before surgery aswell, shown below.



asthma

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

10/10/18

40 Years male with family history of allergy is having complaint of dyspnea with prolong expiration and wheezing. His CBC, shows elevated eosinophilic count.

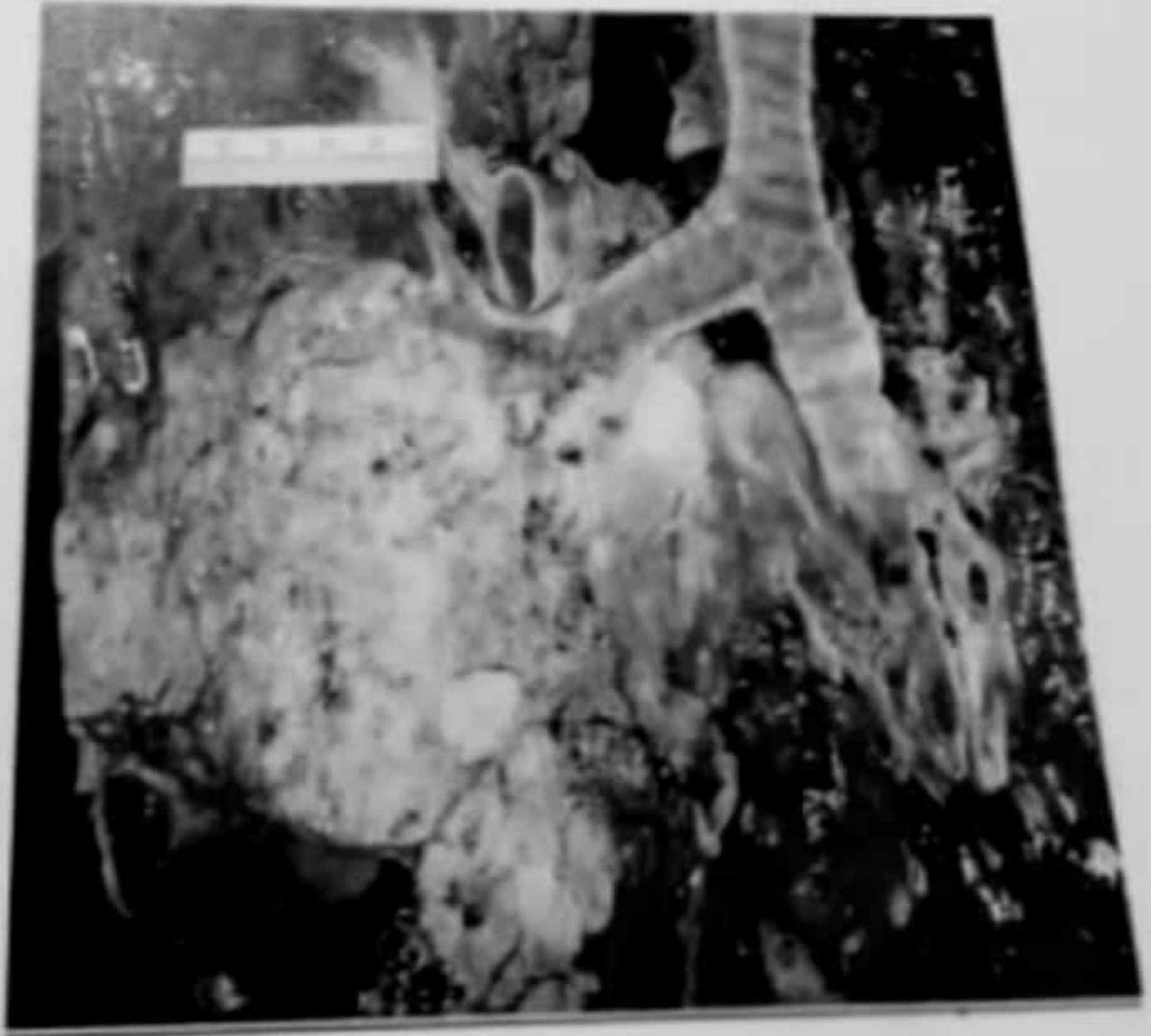
lobar pneumonia

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE



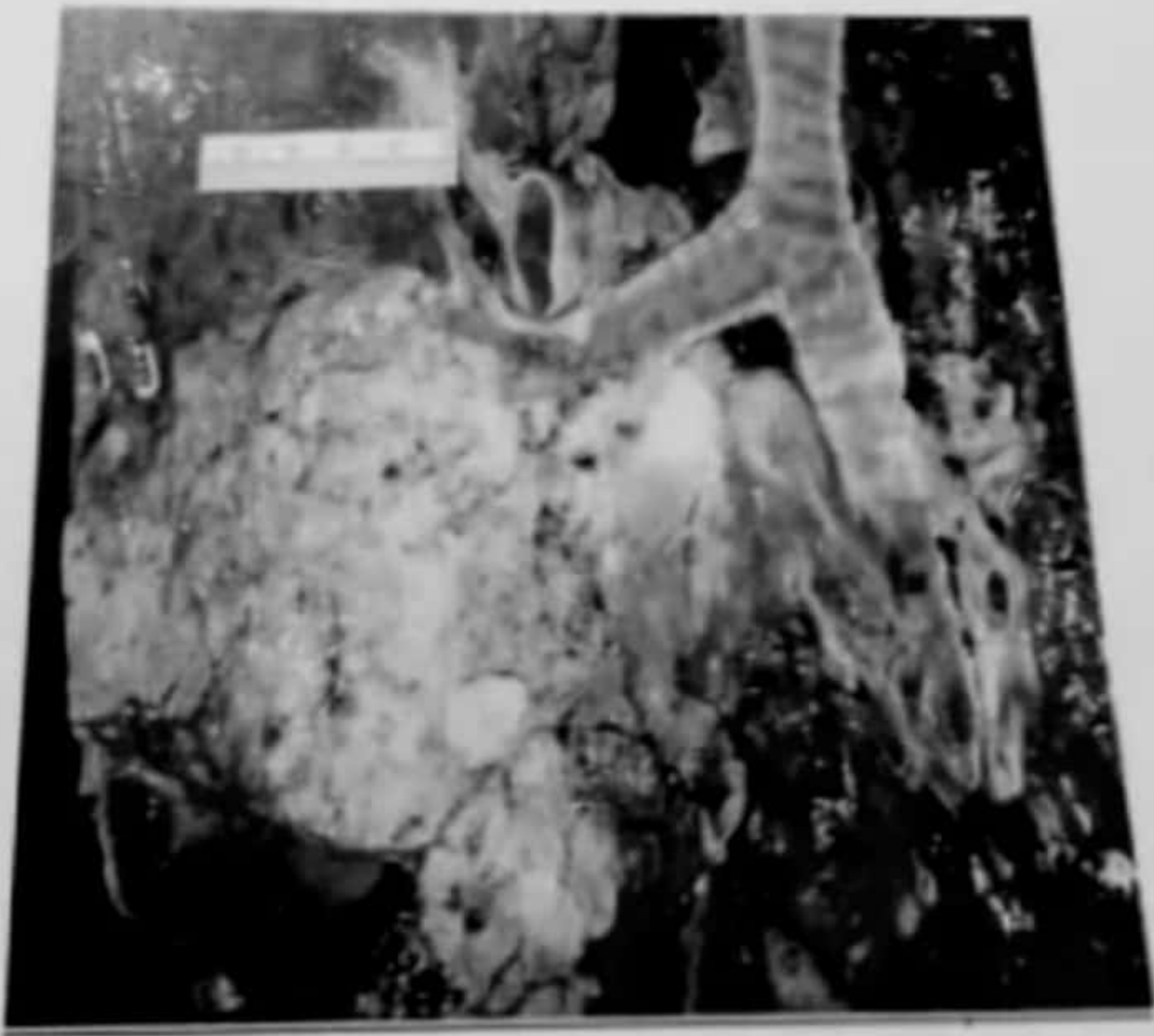
bronchogenic carcinoma

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

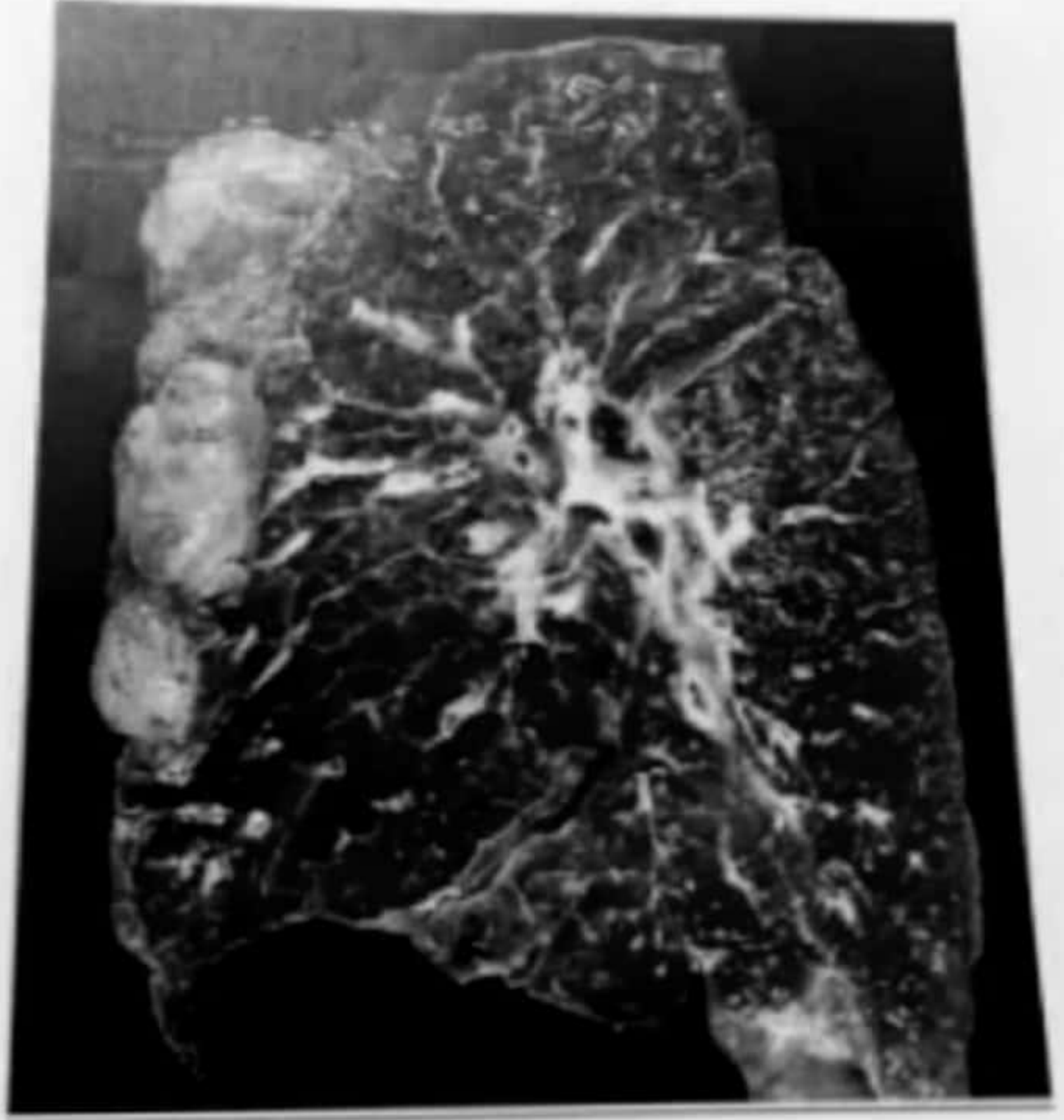


squamous cell carcinoma

DEPARTMENT OF PATHOLOGY, ANMC, LAHORE



emphysema



x +

rhumatide arthrits

Johns Hopkins **Causes**


Pathology Outlines

K! Kahoot! - My Kaho...

diagnosed by rh fector complications types of deformity

OSPE-MBBS 3rd Professional Examination

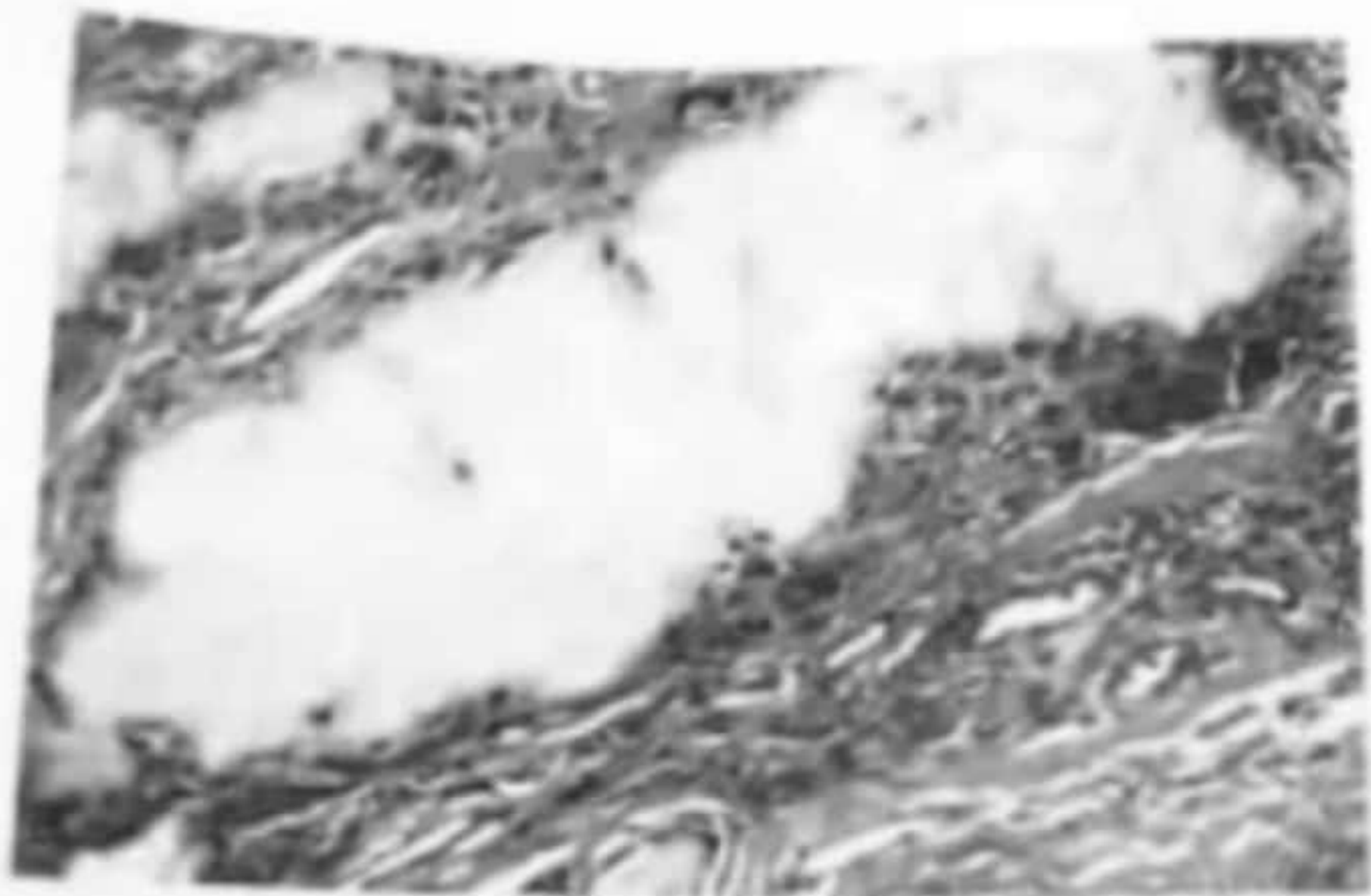
Unobserved Station



Carefully examine the photograph & answer the questions:

1. Name the deformities?

gout
morphology

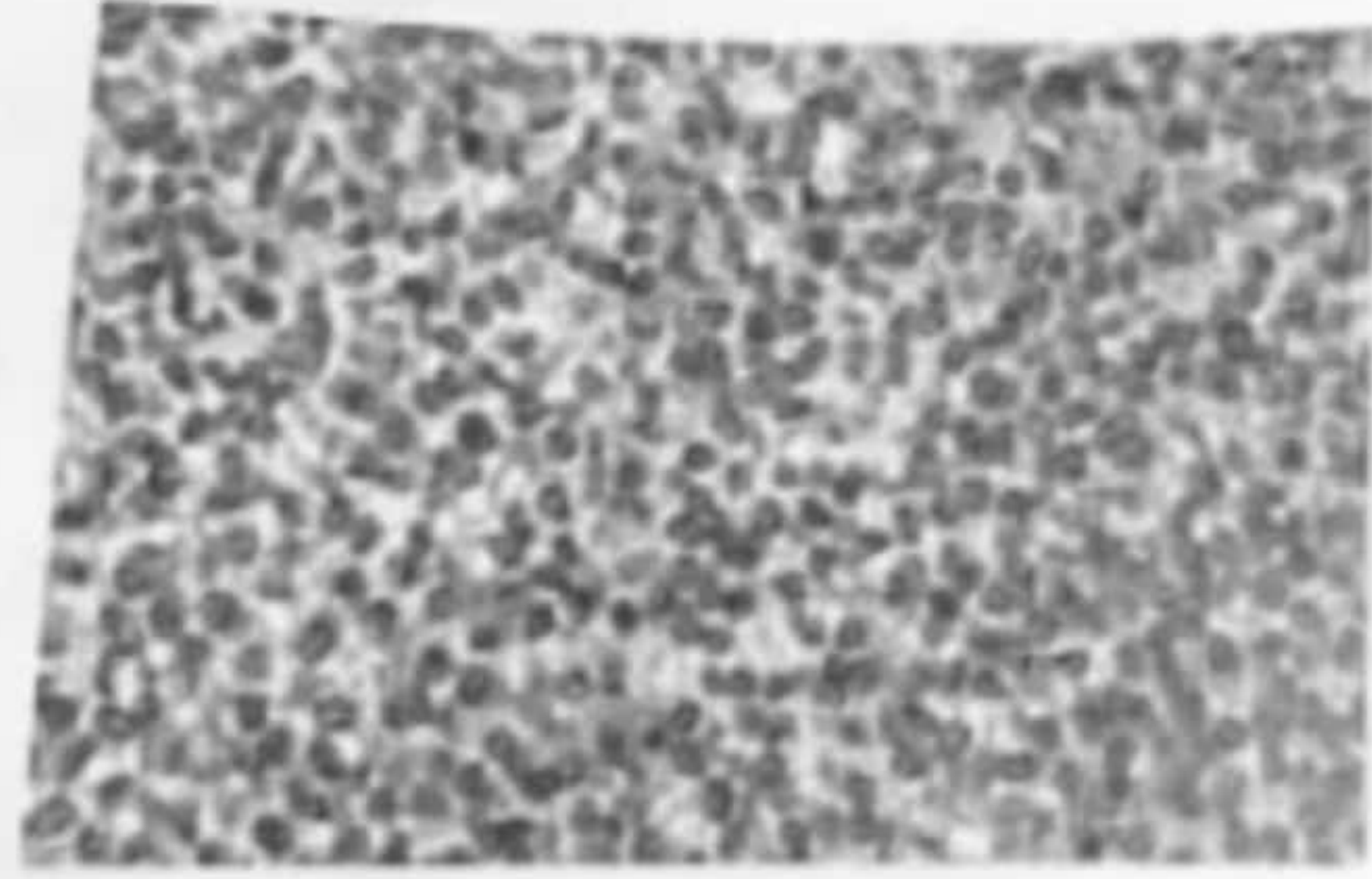


A 40 year old man alcoholic, obese developed swelling and pain of Right big toe involving First metatarsophalangeal joint.

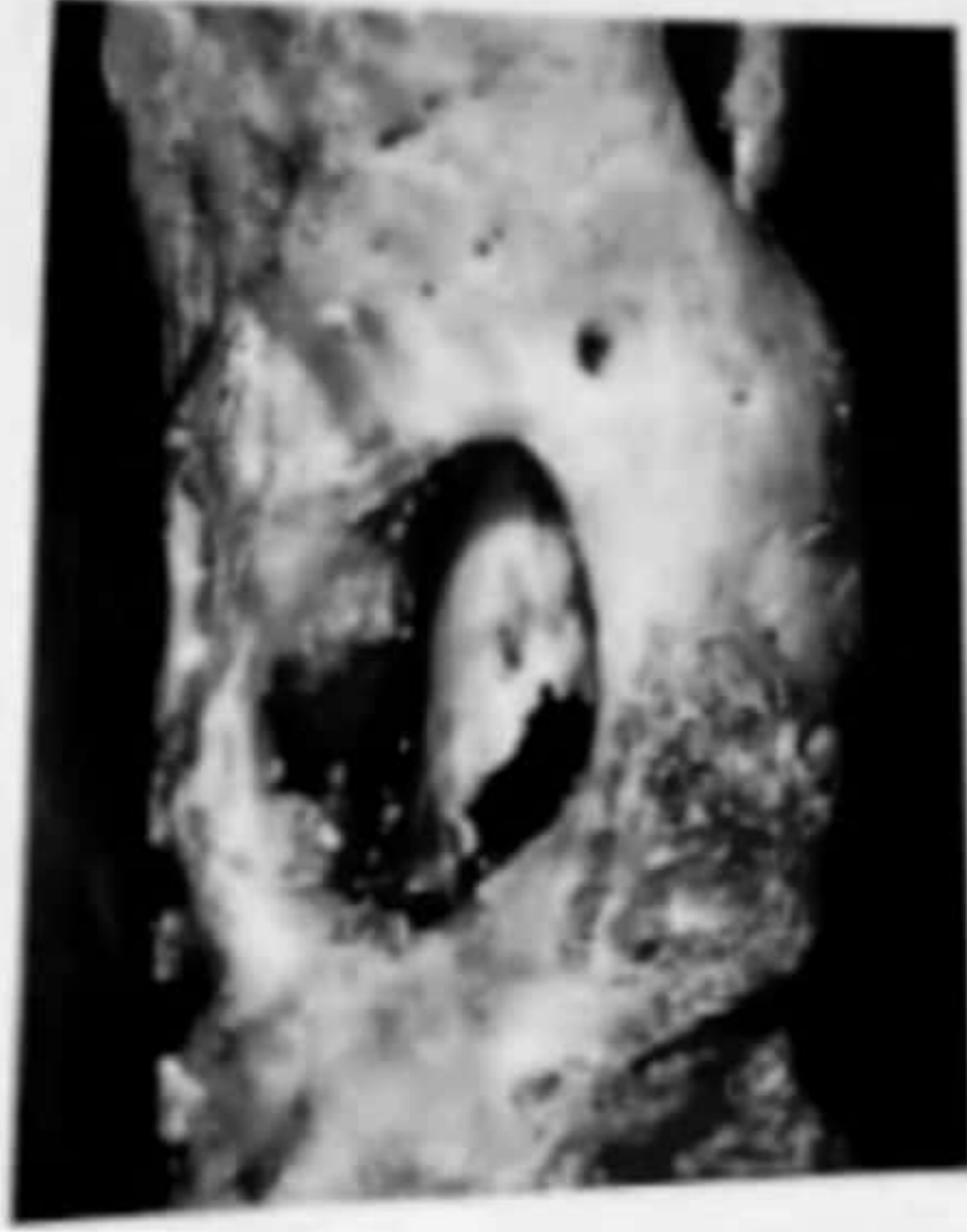
Ewing sarcoma

small round blue cells

A young boy of 11 years presented with painful enlarging mass in the diaphysis of his left femur and imaging studies showed destructive lytic and ONION -SKIN Lesion of tumor which has infiltrative margins and extending into surrounded soft tissue.



**pathogensis
organisms
squastrum . involcurm**



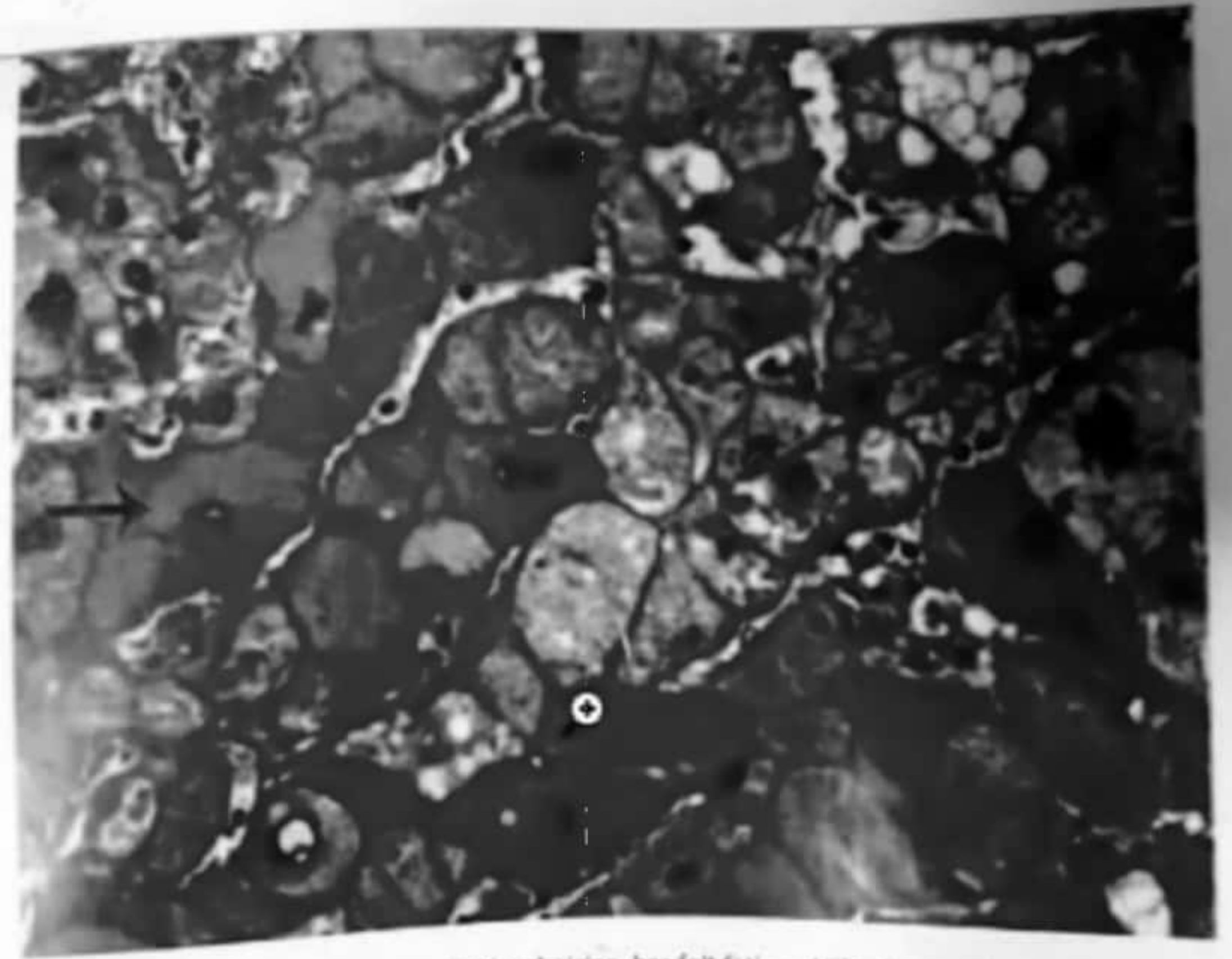
A young man met with road side accident and got fracture of his lower leg. After a month he developed the system illness with fever, malaise, pain and draining sinus at the site of wound on his leg. X-Ray of his leg showed destructive lytic lesion surrounded by edema and a sclerotic rim.

...history of dull right upper quadrant pain and flatulence for the past
chronic hepatitis ... was done and

A 54-year-old man complaints of fatigue, malaise & lethargy for the past 3 months. He experienced an episode of jaundice 15 years ago, but that resolved. On physical examination there are no remarkable findings. Laboratory studies show albumin 2.3 g/dL, ALT 162 U/L and AST 171 U/L with total bilirubin 3.3 mg/dL and direct bilirubin 0.6 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the lobules from the triads. There are foci of steatohepatitis & lymphoid follicles.

Diagnosis?(1)

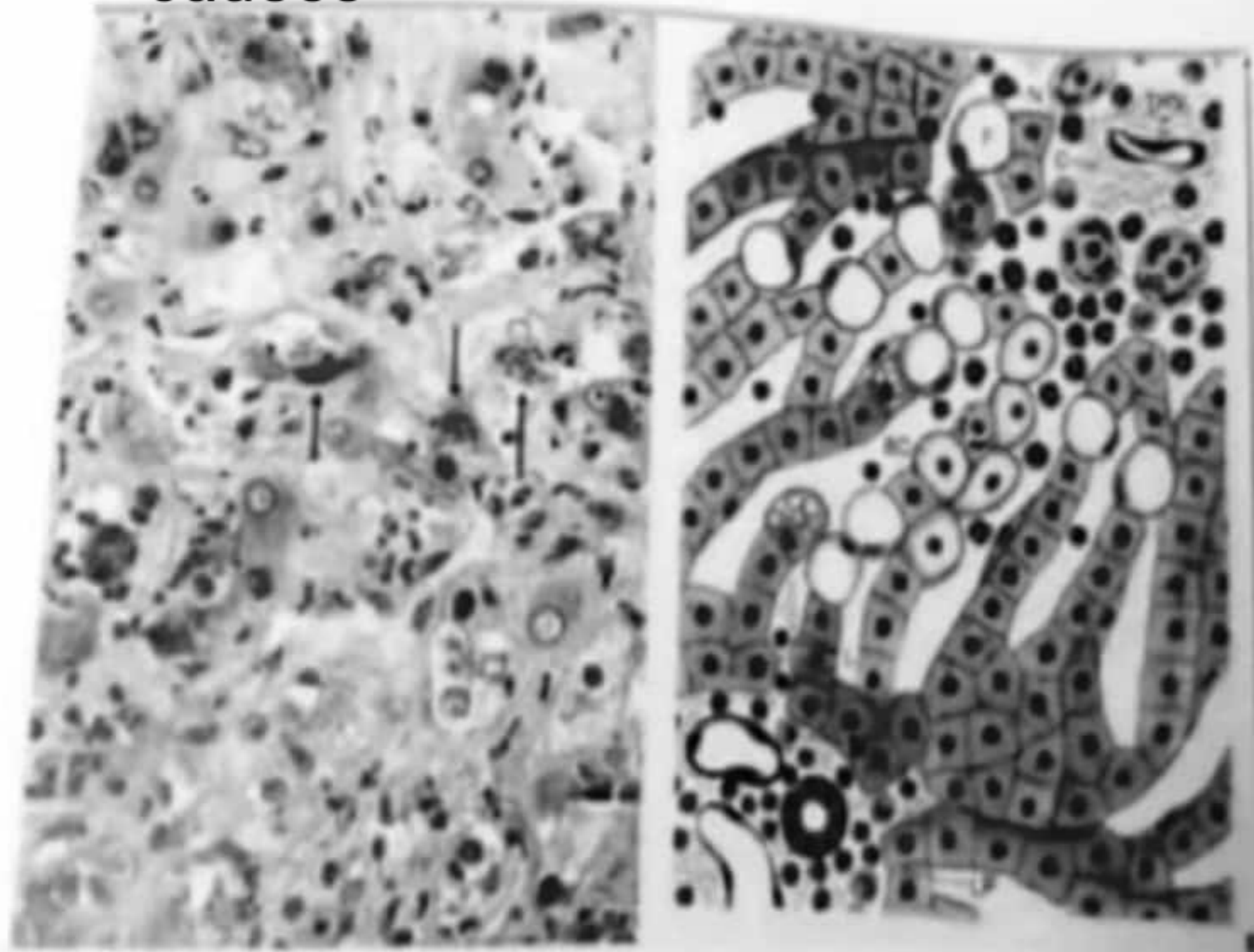
Hepatitis B



A 44-year-old man, an emergency medical technician, has felt fatigued for the past 4 months. He experienced an episode of jaundice 10 years ago, but that resolved and he has been healthy since. On physical examination there are no remarkable findings. Laboratory studies show his hemoglobin is 14 g/dL and serum electrolytes normal, but he has a total protein of 5.4 g/dL, albumin 2.9 g/dL, ALT 132 U/L and AST 113 U/L with total bilirubin 1.3 mg/dL and direct bilirubin 0.8 mg/dL. A liver biopsy is performed and microscopic examination shows interface inflammation with extension of inflammation into the lobules from the triads. There is focal ballooning degeneration of hepatocytes & characteristic ground glass appearance.

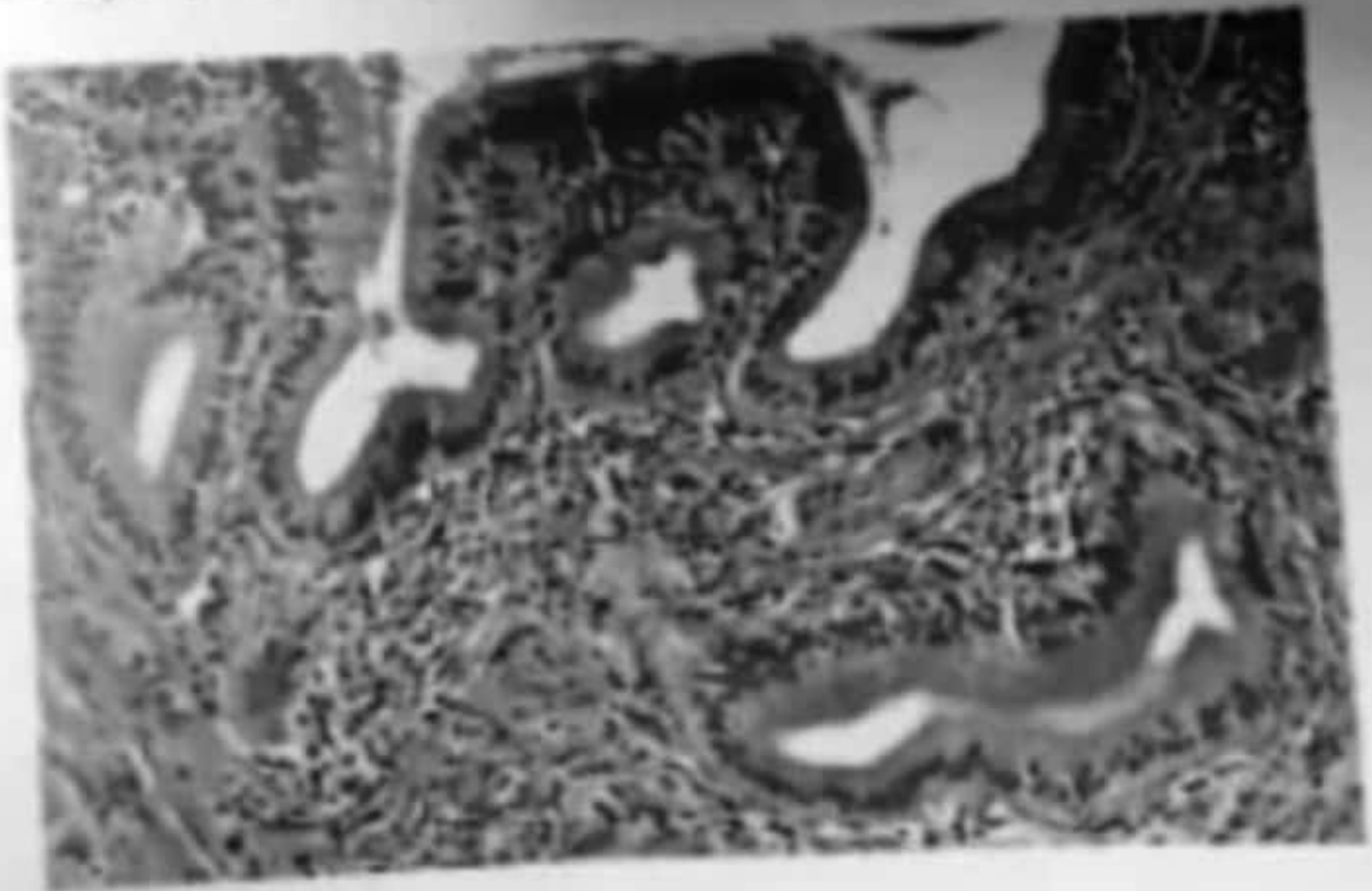
1. What is your diagnosis? 1
- inflammation? 1

Hepatitis morphology causes



A 41-year-old man is found in an unconscious state and taken to the hospital. He is icteric. His abdomen is enlarged with a fluid wave. Laboratory studies show total protein 6.5 g/dL, albumin 2.8 g/dL, total bilirubin 4.8 mg/dL, AST of 563 U/L, ALT 317 U/L, alkaline phosphatase 55 U/L, and ammonia 91 micro mol/L. A liver biopsy is performed and microscopically demonstrates abundant Mallory hyaline, neutrophilic infiltrates, hepatocyte necrosis, portal fibrosis, and extensive macrovesicular steatosis.

A 50 years old lady presents with history of dull right upper quadrant pain and flatulence for the past one year. Ultrasound showed numerous stones in the gall bladder. Cholecystectomy was done and microscopic picture is given below.



...of cholesterol stones? (2)

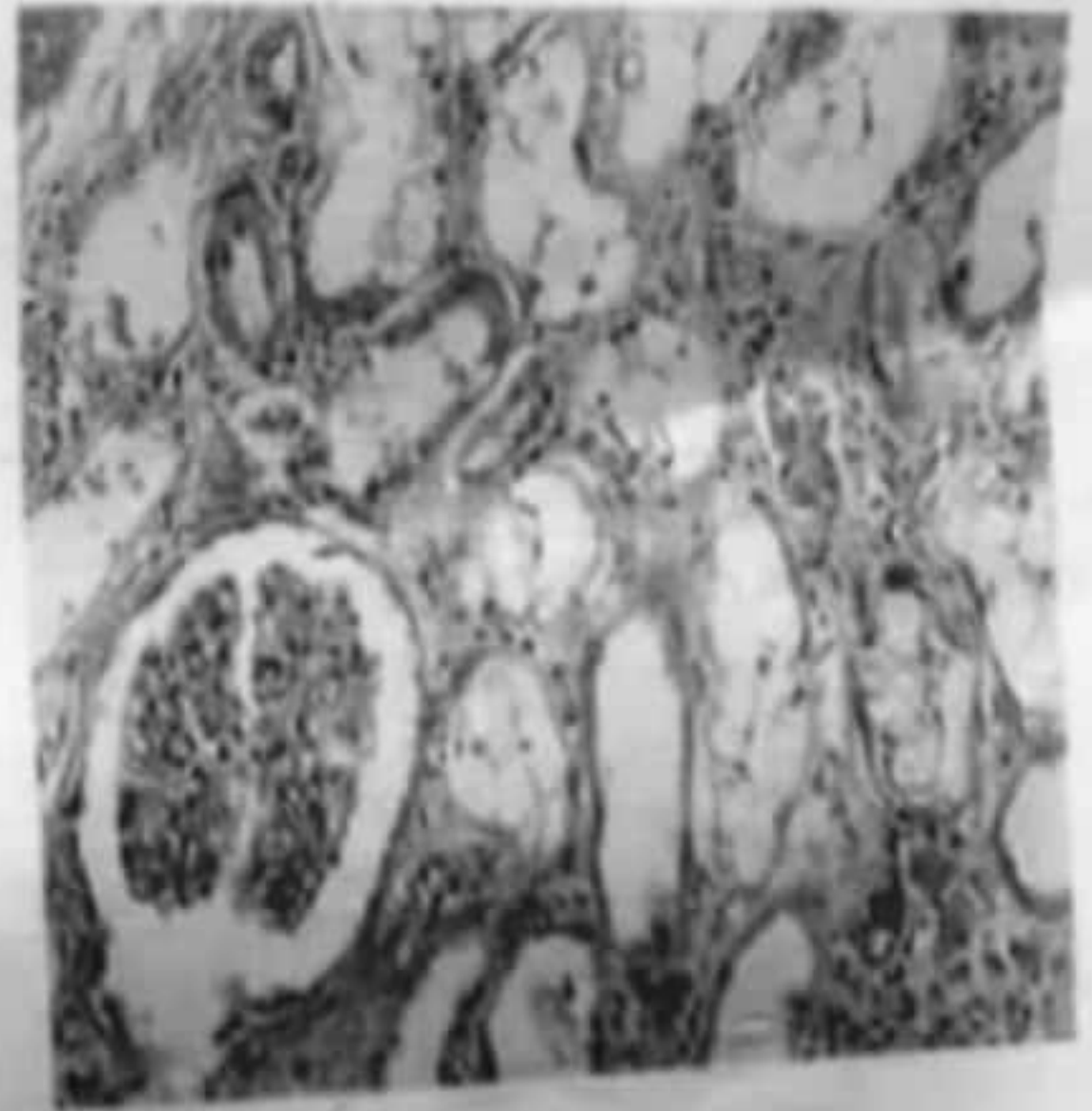
cholecystitis
types

Acute tubular Necrosis

STATION:

A 26-year-old man is involved in a motor vehicle accident and sustains acute blood loss. He is hypotensive for several hours before paramedical personnel arrive. They stabilize the bleeding and transport him to a hospital, where he receives a transfusion of 3 U of packed RBCs. Over the next week, the serum urea nitrogen level increases to 48 mg/dL, the serum creatinine level increases to 5 mg/dL, and the urine output decreases. He undergoes hemodialysis for the next 2 weeks and then develops marked polyuria, with urine output of 2 to 3 L/day. His renal function gradually returns to normal.

1. What is your diagnosis? 1
2. Name 2 major etiologies? 1.5
3. Name 3 stages of its clinical course. 1.5

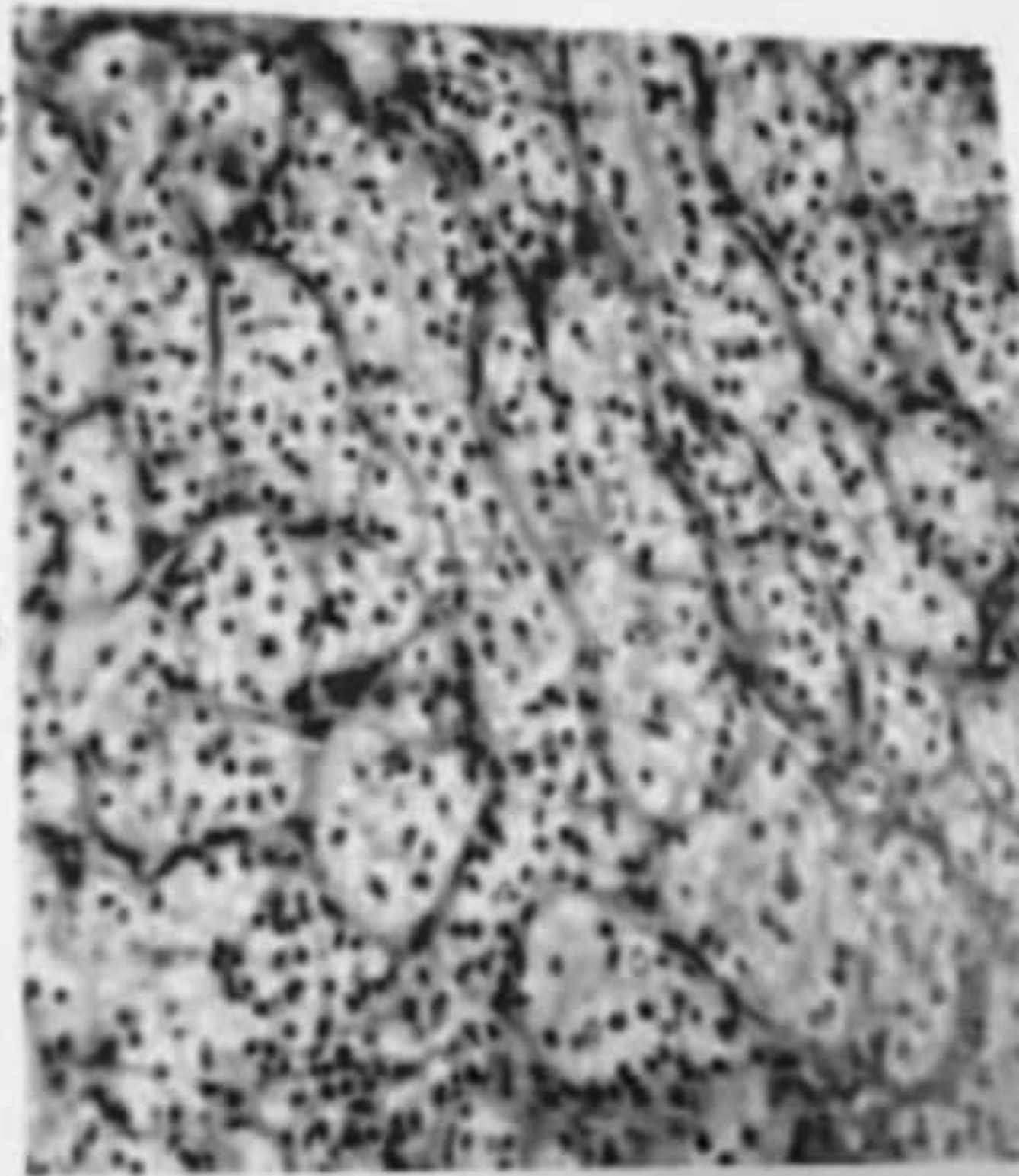


Renal cell Carcinoma (Clear cell type)

STATION :

A 60-year-old man presents with a feeling of fullness in his abdomen and a 5-kg weight loss over the past 6 months. Laboratory studies show hemoglobin of 8.2 g/dL, hematocrit of 24%, and MCV of 70 μm^3 . Urinalysis shows 3+ hematuria, but no protein, glucose, or leukocytes. Abdominal CT scan shows an 11-cm mass in the upper pole of the right kidney. A right nephrectomy is performed, and on gross examination the mass invades the renal vein.

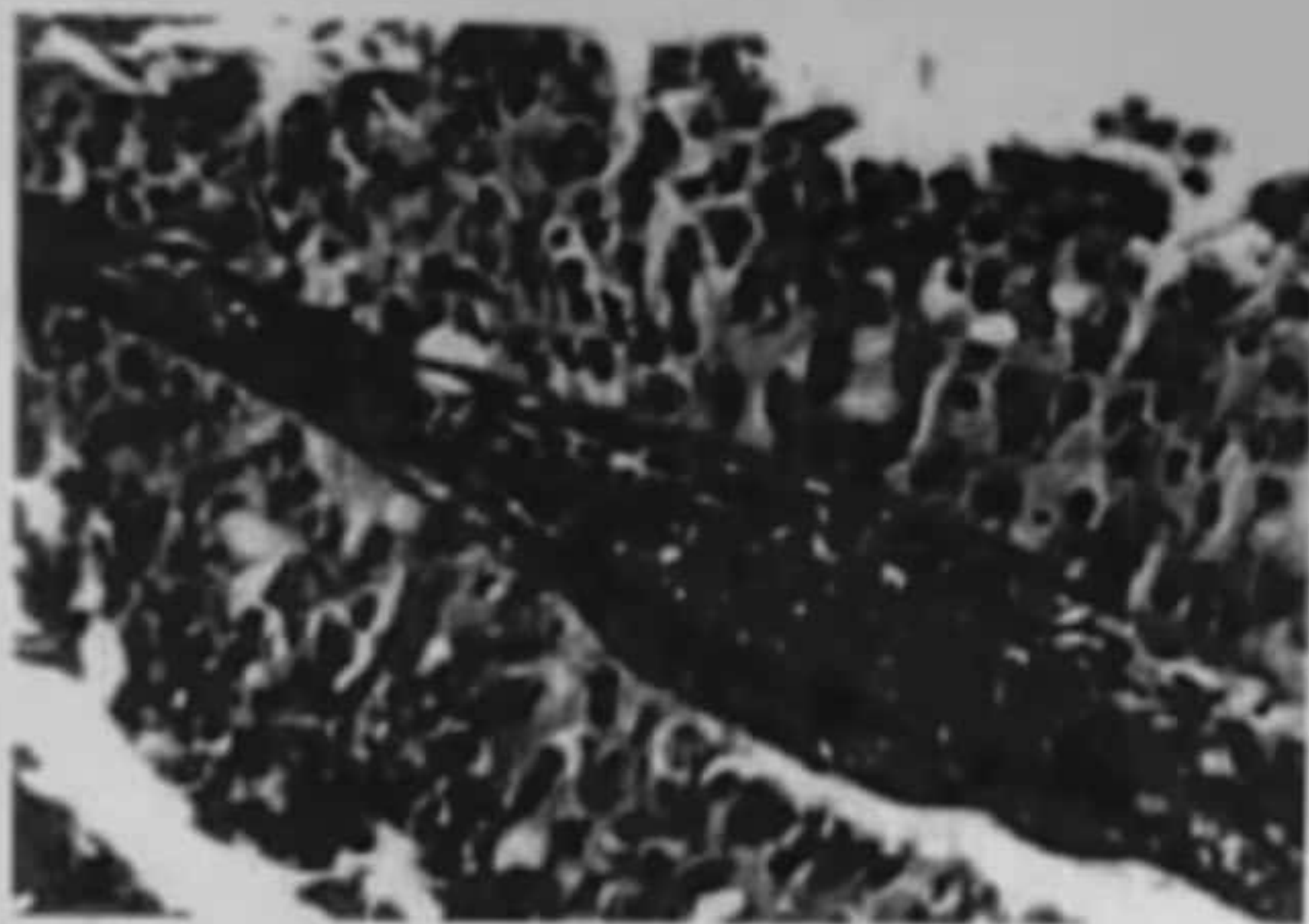
- 1) What is your diagnosis? (1)
- 2) What are its types? (2)
- 3) Describe its morphology. (1)



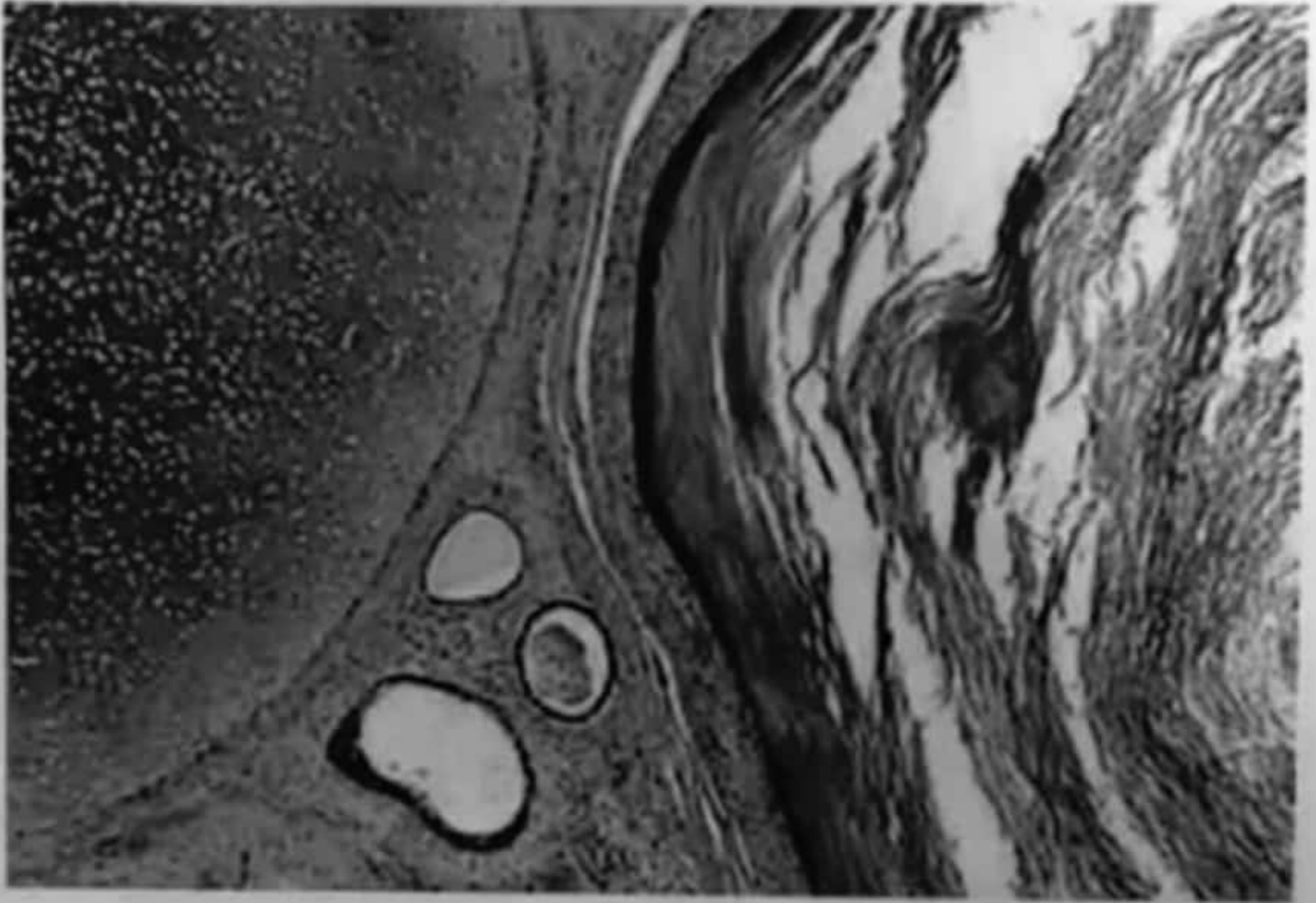
papillary urothelial carcinoma

Ospe Statalon

Renal system



You are shown a urinary bladder growth in above two pictures.



DIC

A 20 year old boy presented with testicular mass.

Rapidly progressive Crescentic Glomerulonephritis

A 38yr old female pt. of SLE develops progressive renal failure with high level of BUN & creatinine, renal biopsy shows distinctive crescent formation.

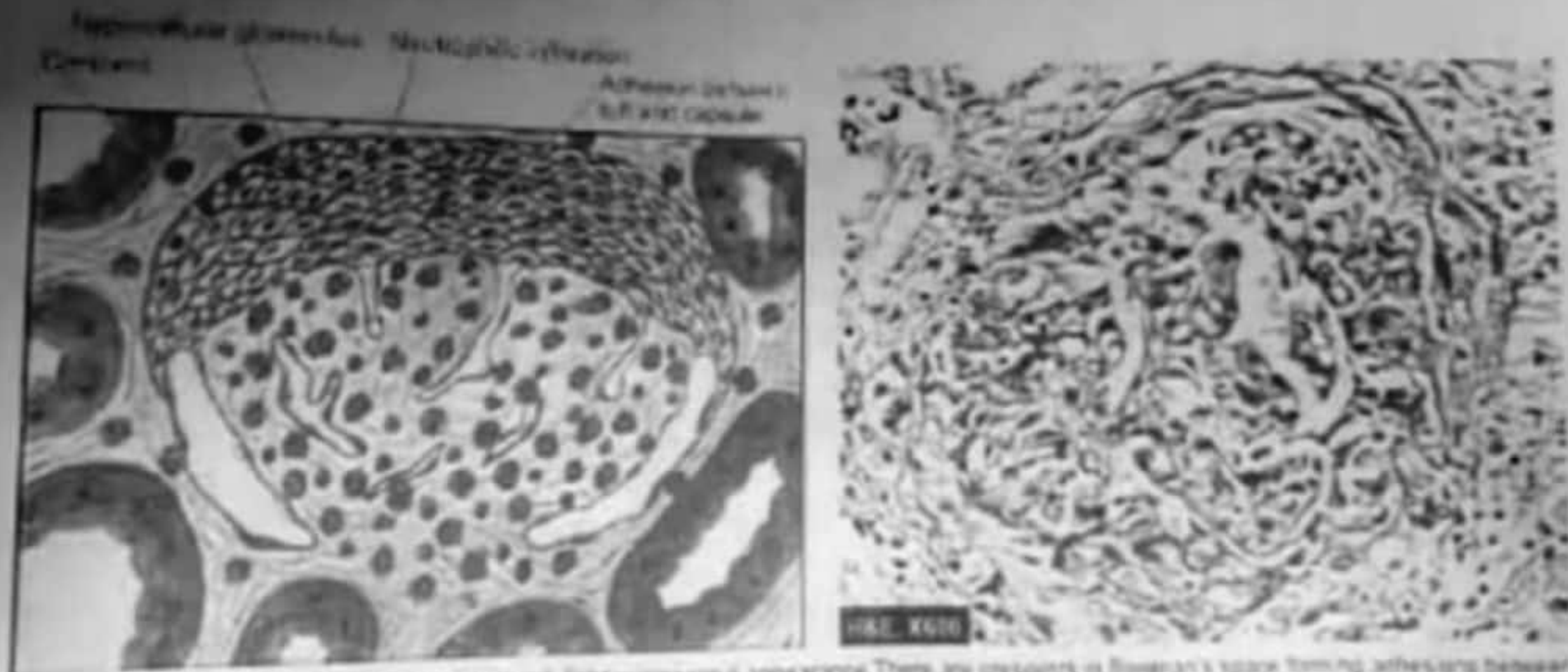


Figure 22.14 ◀ RPGN (post-infectious type), light microscopic appearance. There are crescents in Bowman's space forming adhesions between the glomerular tuft and Bowman's capsule. The tuft shows hypercellularity and neutrophilic infiltration.

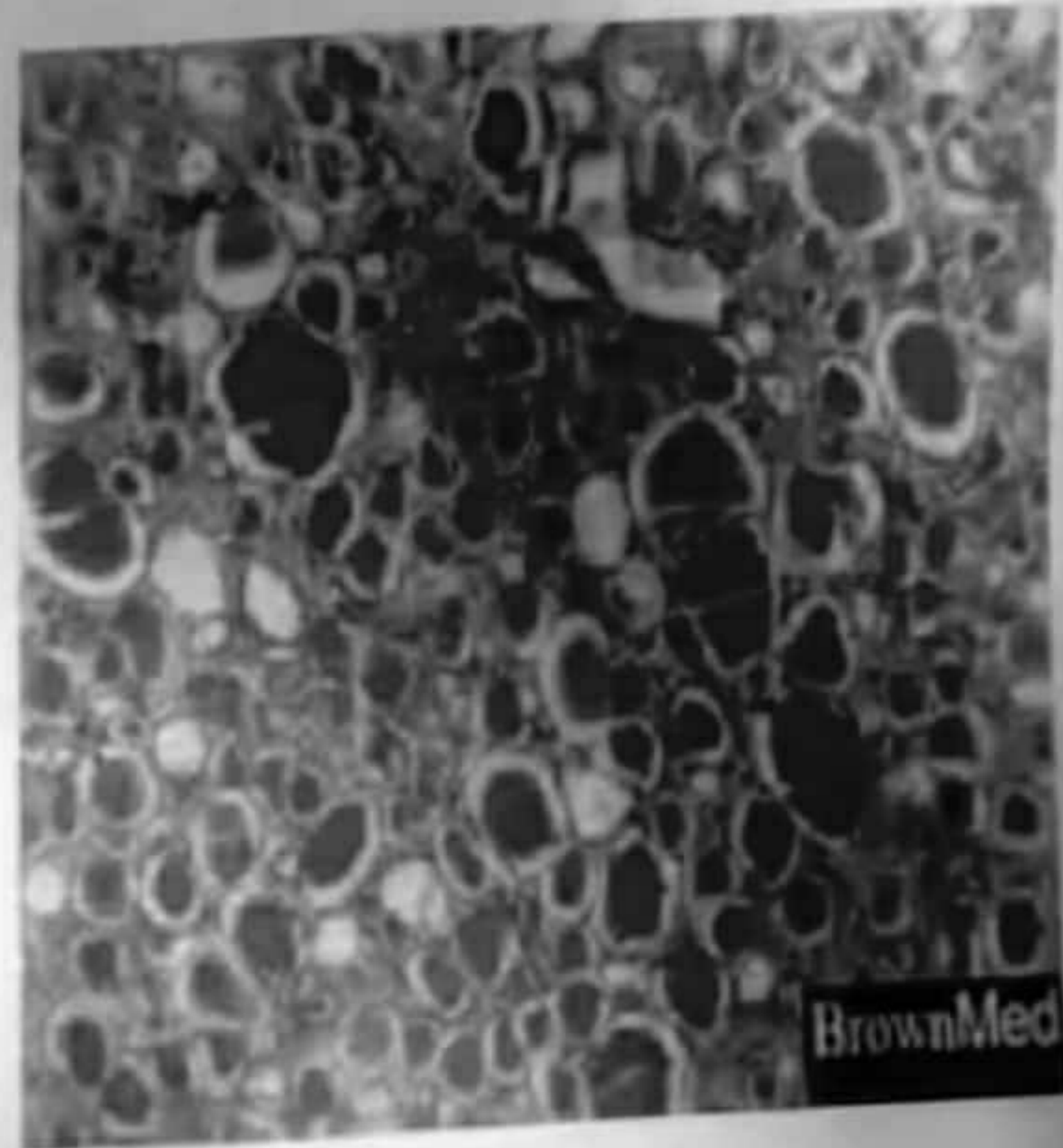
Chronic Nephritis Pyelonephritis

Gross: Fibrosis and Scarring

STATION :

A 30-year-old woman with a history of recurrent urinary tract infections has had a high fever for the past 3 days. On physical examination, her temperature is 38.4°C. There is marked abdominal tenderness on deep palpation. A renal ultrasound scan shows an enlarged right kidney with pelvic and calyceal enlargement and cortical thinning; the left kidney appears normal. A right nephrectomy is done, and microscopic examination is shown.

1. What is your diagnosis? 1
2. Describe gross/ histological features. 1.5
3. Name 2 complications. 1.5



Microscopy: Thyrsoidization of tubule

Adenocarcinoma of prostate

A 38yr old female pt. of SLE develops progressive renal failure with high level of BUN & creatinine, renal biopsy shows distinctive crescent formation.

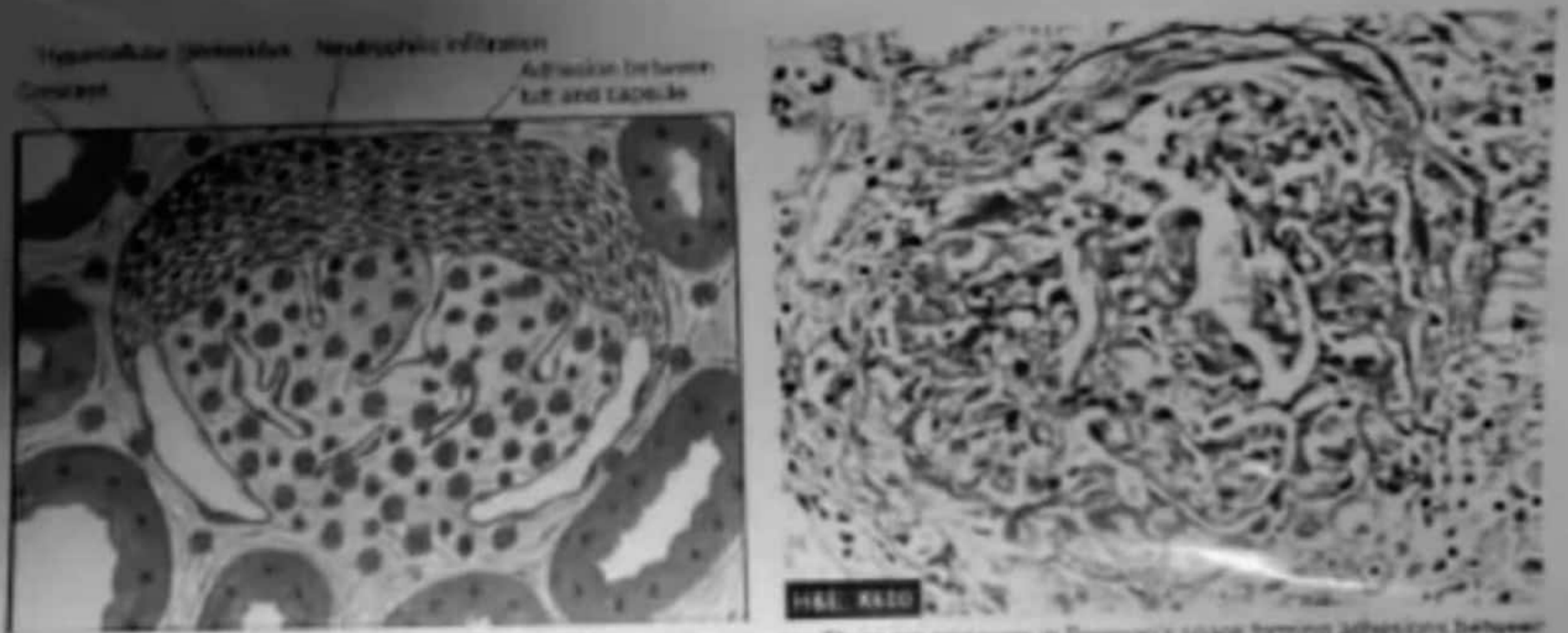
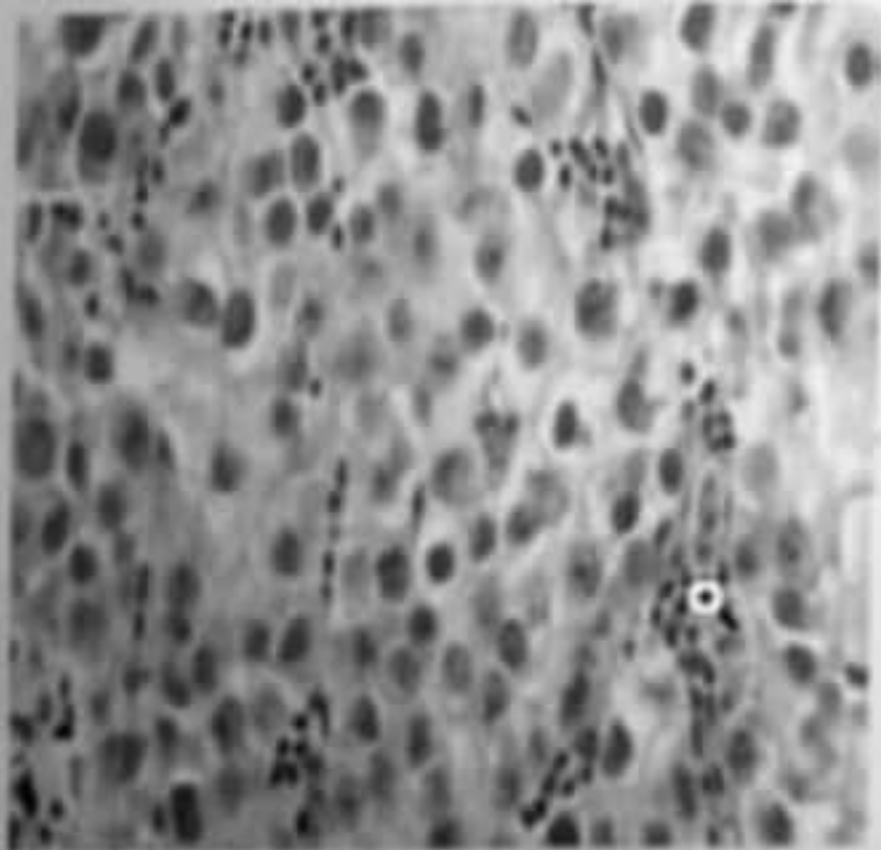


Figure 22.14 © RPGN (post-infectious type), light microscopic appearance. There are crescents in Bowman's space forming adhesions between the glomerular tuft and Bowman's capsule. The tuft shows hypercellularity and leukocytic infiltration.

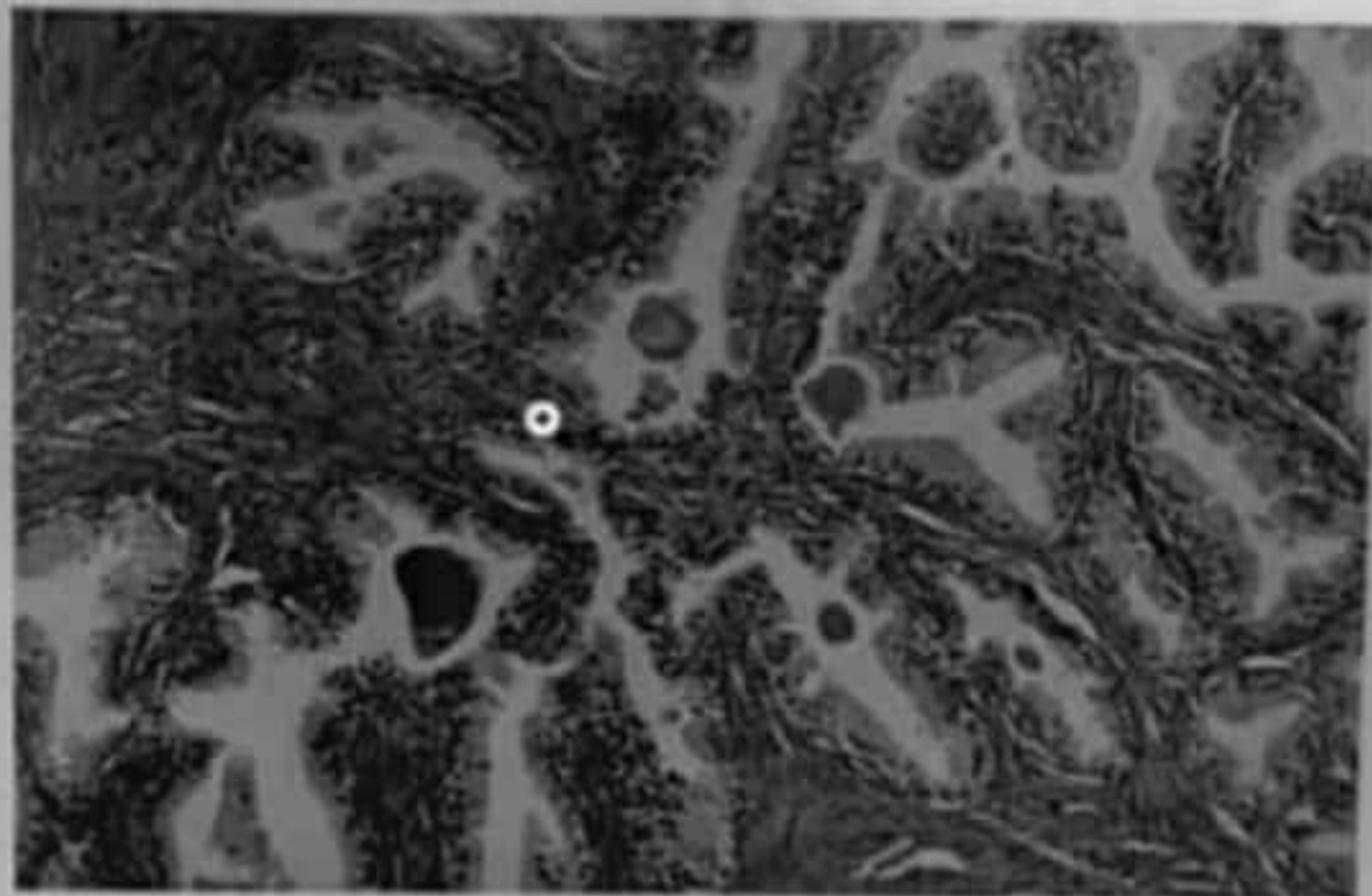


Testicular tumors

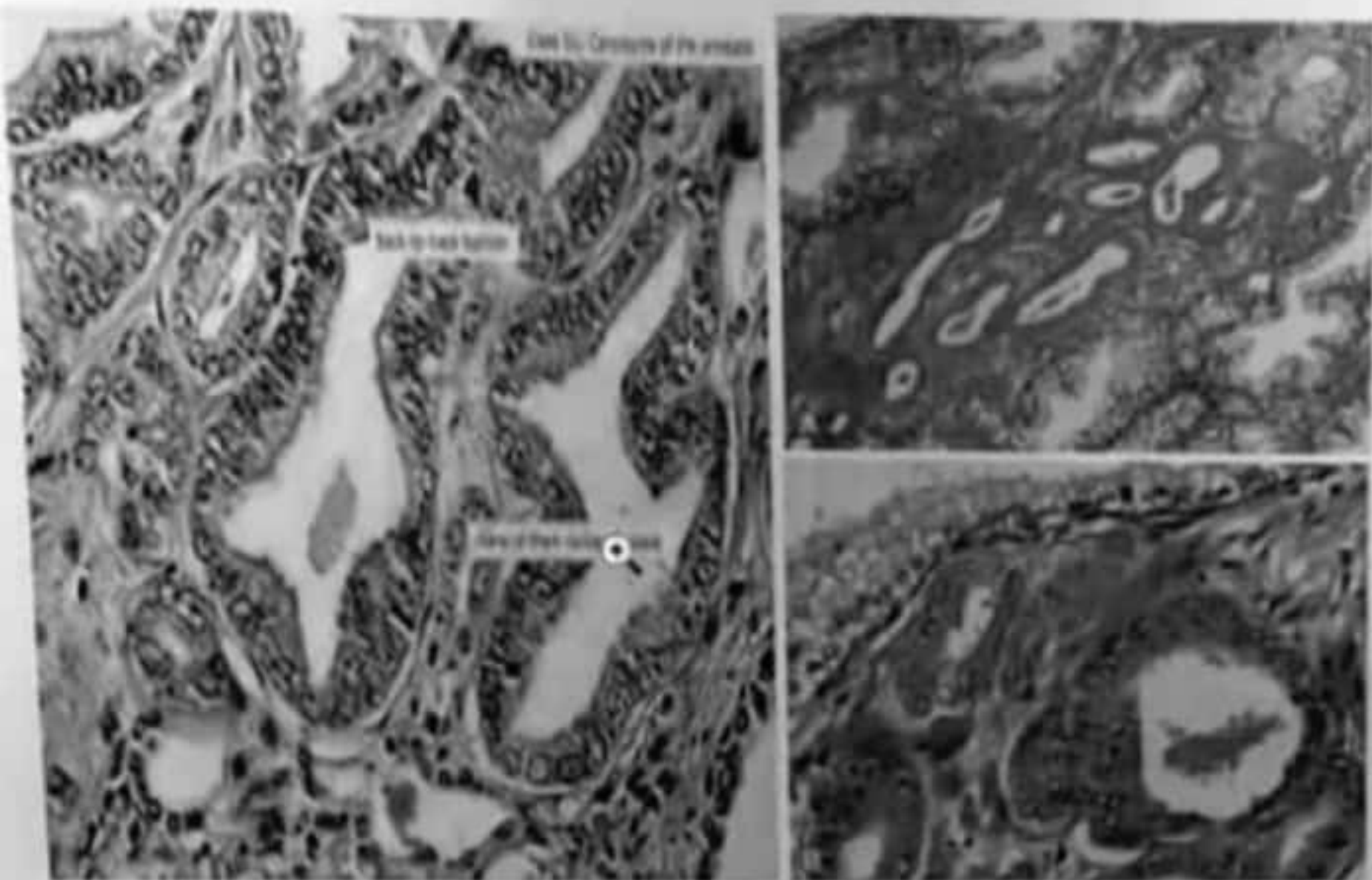
A 30-year-old man has enlargement of the left testis with a palpable left inguinal lymph node. An ultrasound reveals a 4 cm solid mass within the body of the left testis. Laboratory findings included a serum beta-HCG of 5 IU/L and alpha-fetoprotein of 2 ng/mL. The left testis is removed and on sectioning reveals a firm, lobulated light tan mass without hemorrhage or necrosis. (as shown in the figure.)

A 76 year old male presents to urologic OPD with complaints of hesitancy, nocturia and weak urinary stream. Serum PSA level is within normal limits. After complete examination and work up he undergoes surgery for a prostatic condition. Microscopic picture of his specimen is shown below:

Benign prostatic hyperplasia



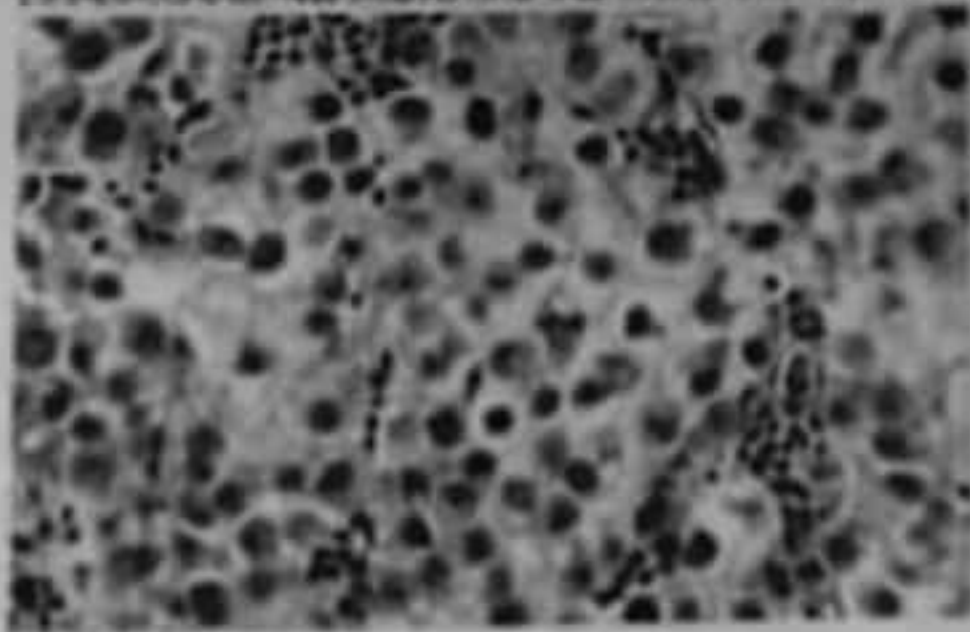
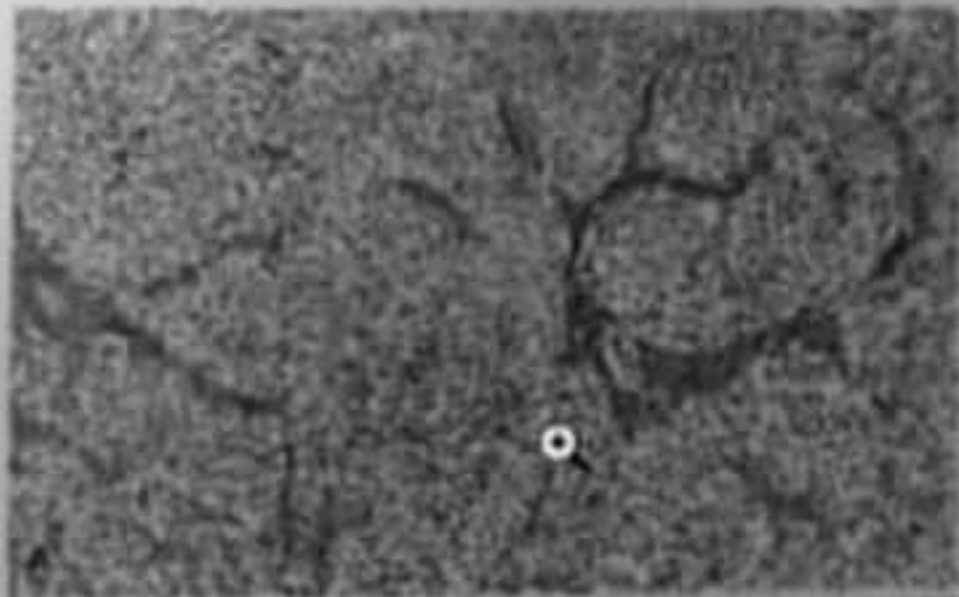
Corpora Amylacea is seen



Adenocarcinoma of prostate

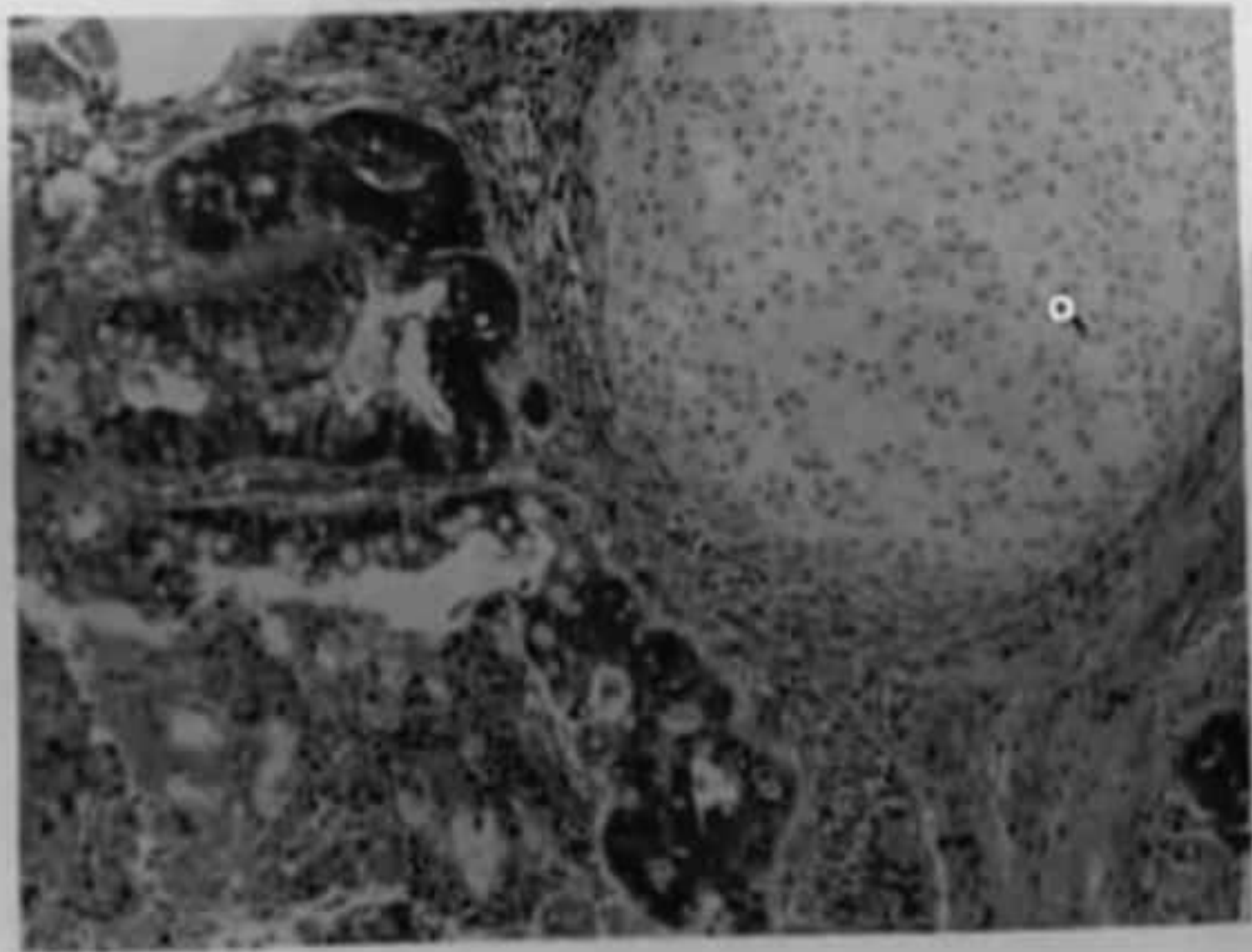
A 70-year-old healthy man has a firm nodule palpable in the prostate via digital rectal examination. Prostate biopsies are performed and on microscopic examination show small, crowded glands containing cells with prominent nucleoli within the nuclei. (as shown in above image).

Seminoma
classify testicular tumors

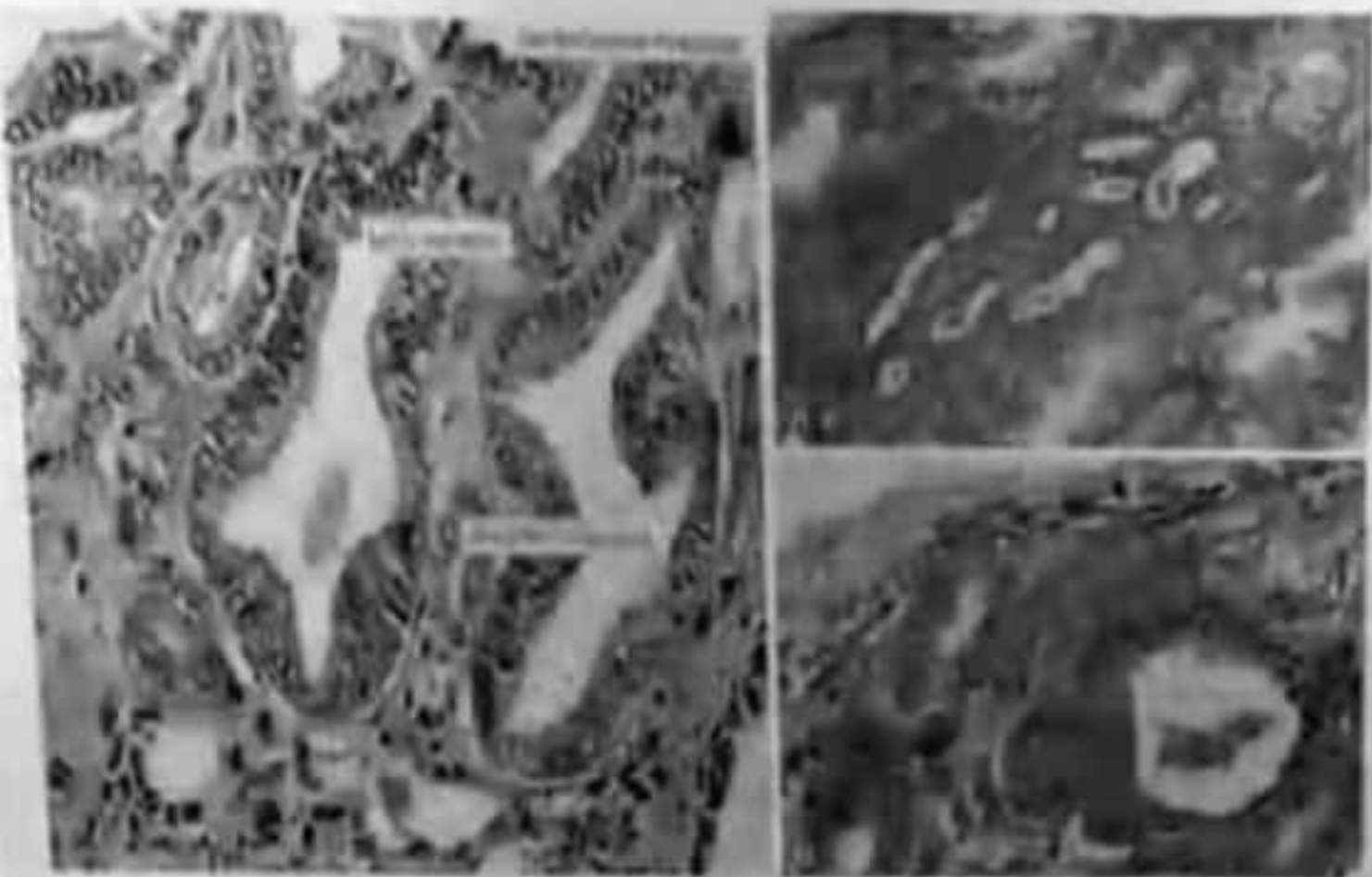


You are shown a photomicrograph of a testicular tumor.

Teratoma



A 20 year old boy presented with testicular mass.

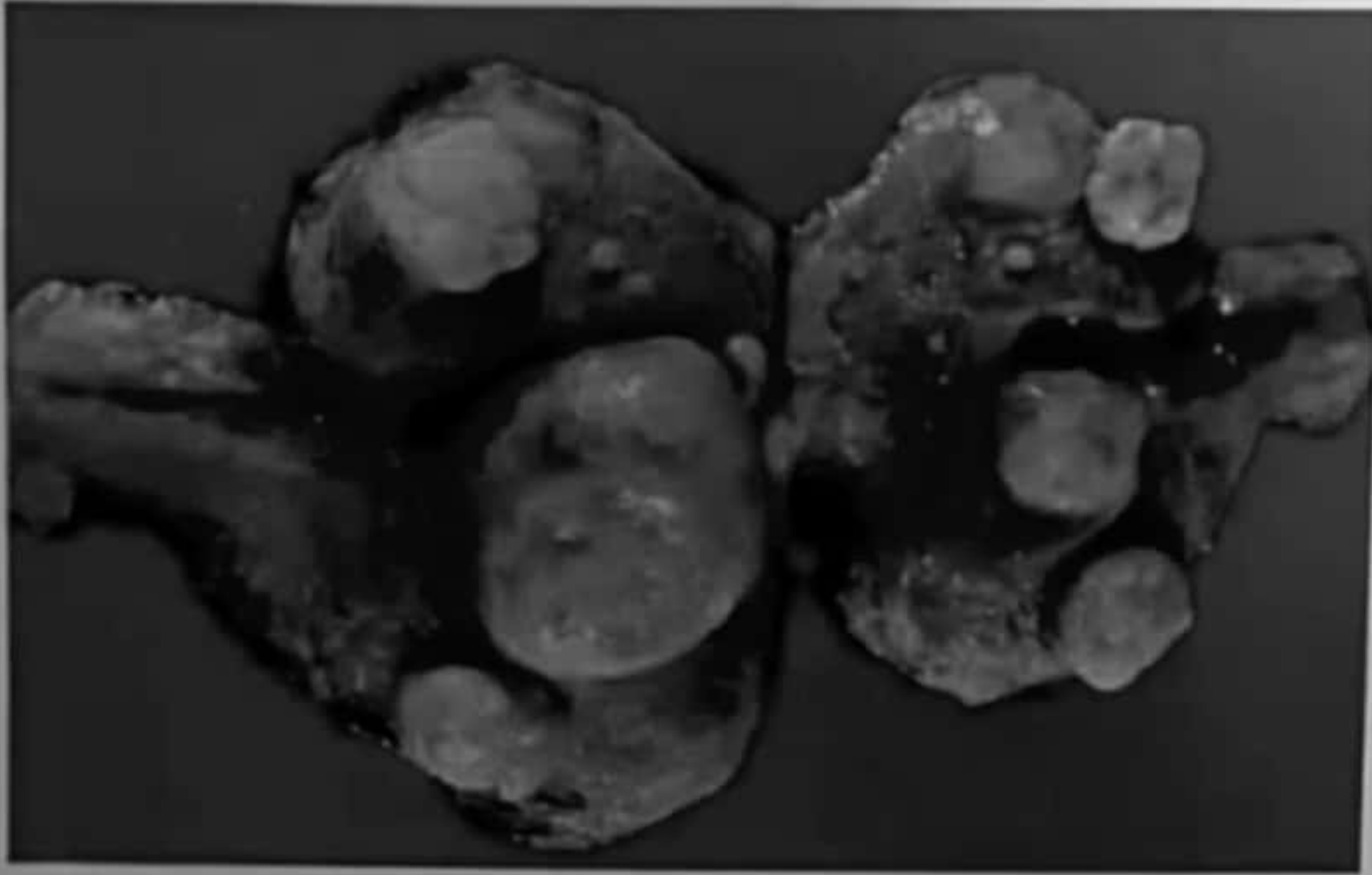


Endometrial Carcinoma type 1 and 2

A 70-year-old healthy man has a firm nodule palpable in the prostate via digital rectal examination. Prostate biopsies are performed and on microscopic examination show small, crowded glands containing cells with prominent nucleoli within the nuclei. (as shown in above image).

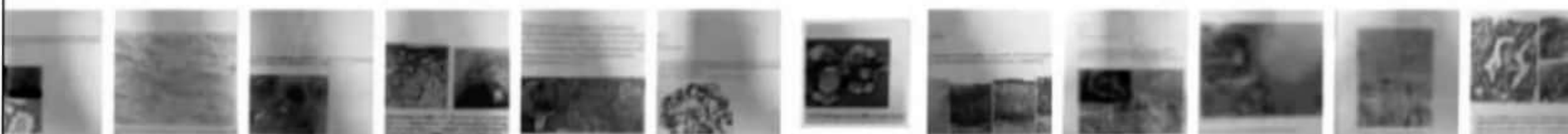
CIN stages carcinoma can arise is squamous cell carcinoma cause by HPV 16 18





A 45 years old female presented with multiple masses in uterus.

10 of 35



leiomyoma
types
morphology

ANMC

OSPE

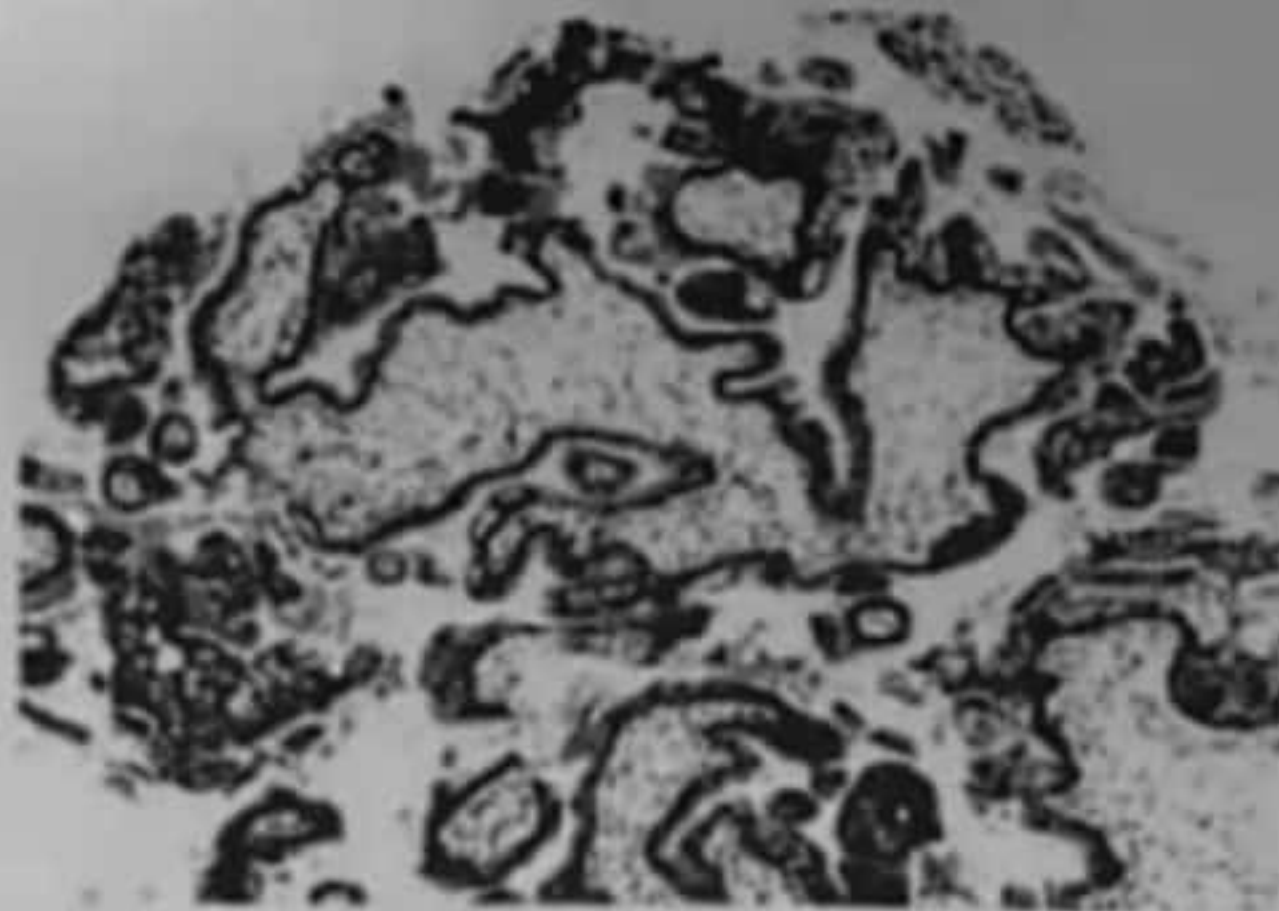
Female genital tract

Mole

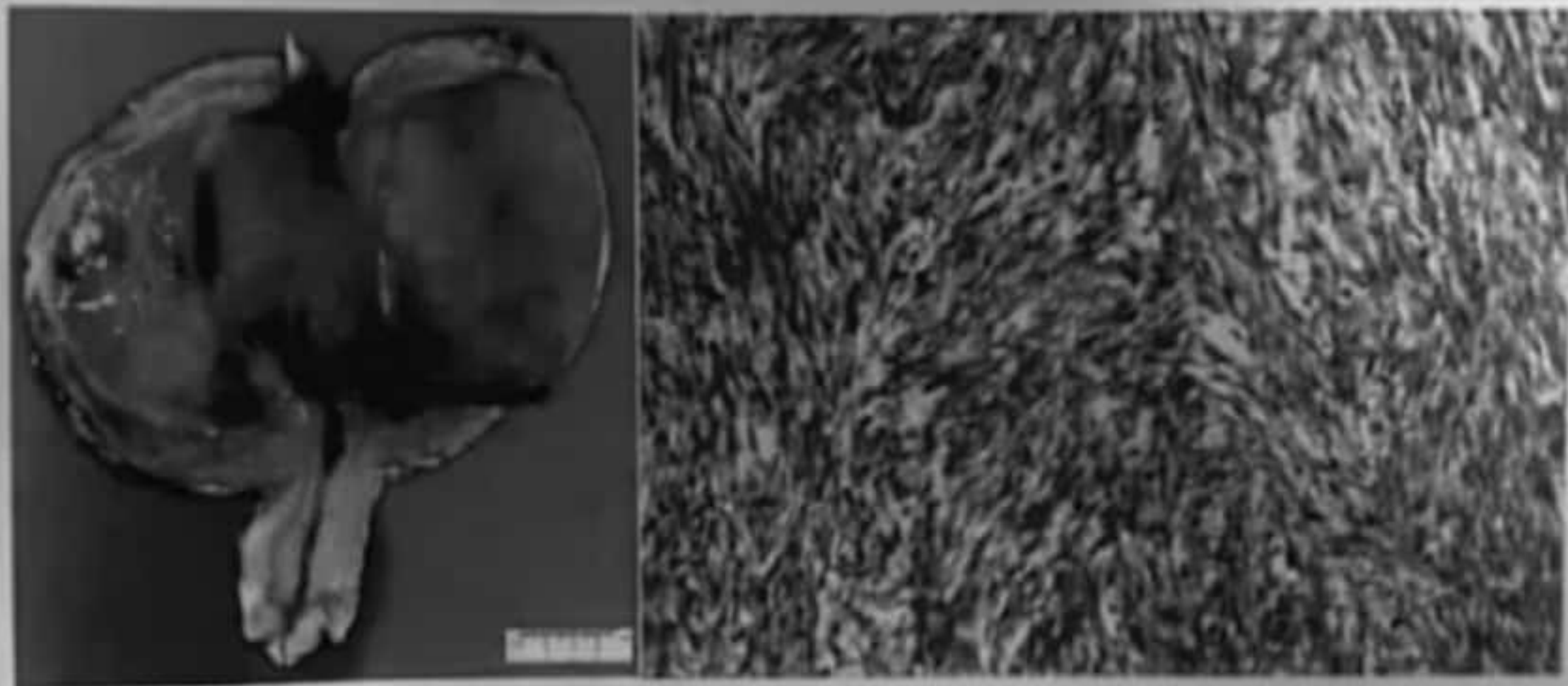
Carcinoma can arise

A 35 years old female presented with spontaneous miscarriage. Beta HCG level is found to be markedly raised. Microscopic examination reveals hydropically enlarged villi with circumferential trophoblastic proliferation. No fetal parts are seen.

GROSS EXAMINATION:- Grape-like clusters.



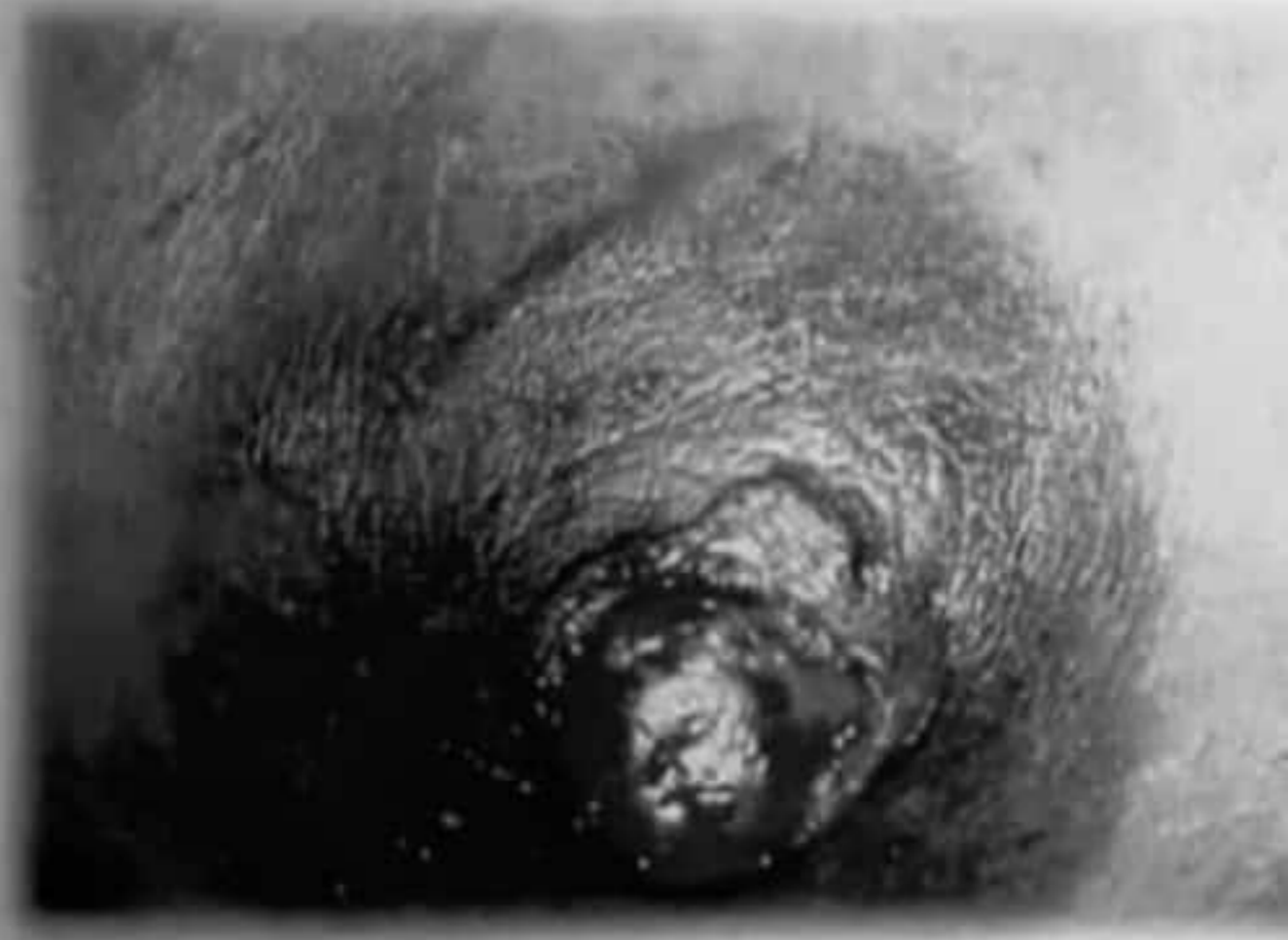
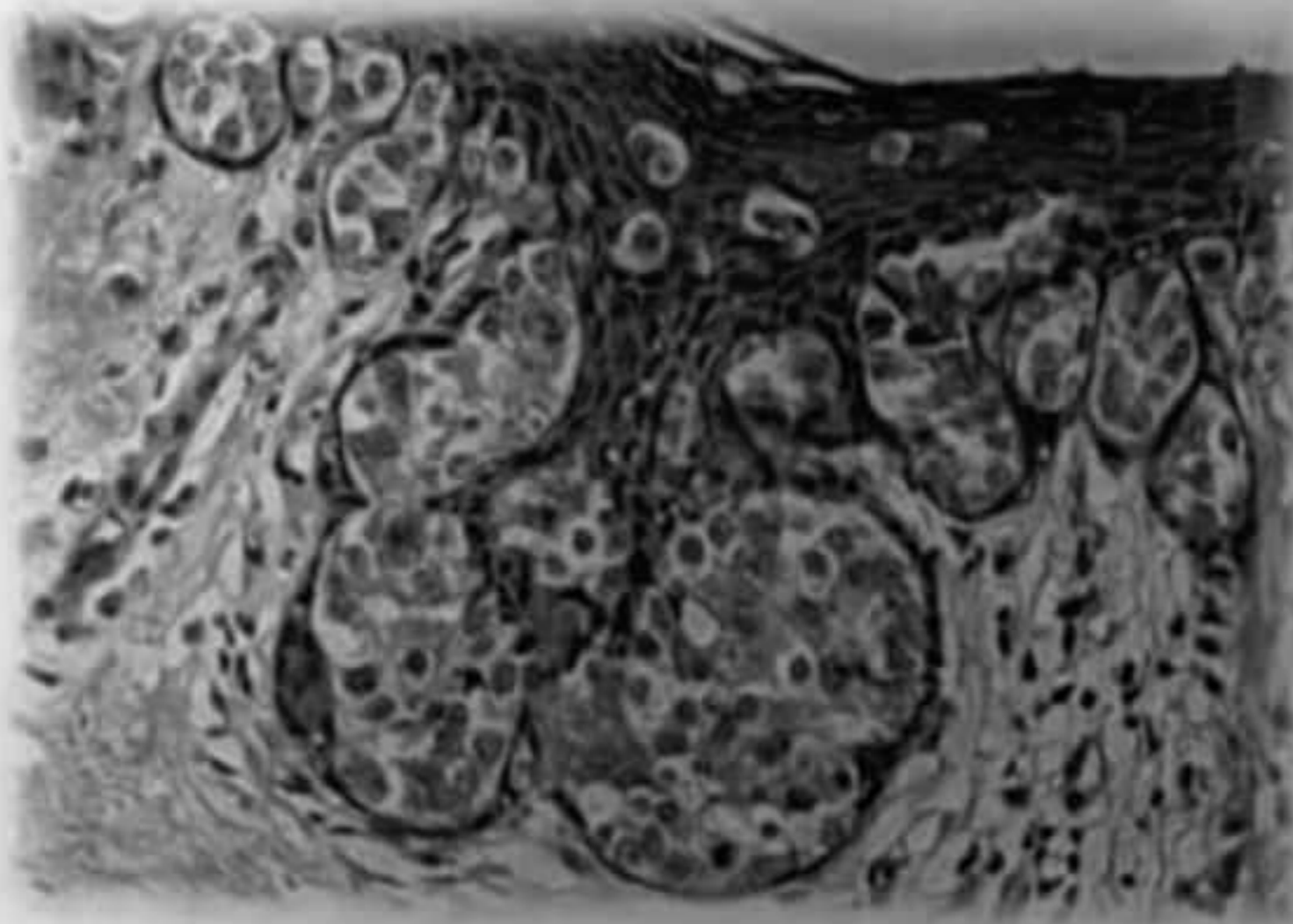
A 42 year old woman has complaints of heavy menstrual periods that last for several days. This has been occurring for the past three months and has been associated with pain and fatigue. Physical examination reveals an enlarged uterus with multiple palpable masses. Lab tests shows her Hb level is 11.3g/dl and haematocrit is 33%.



8 of 35

leiomyoma
types

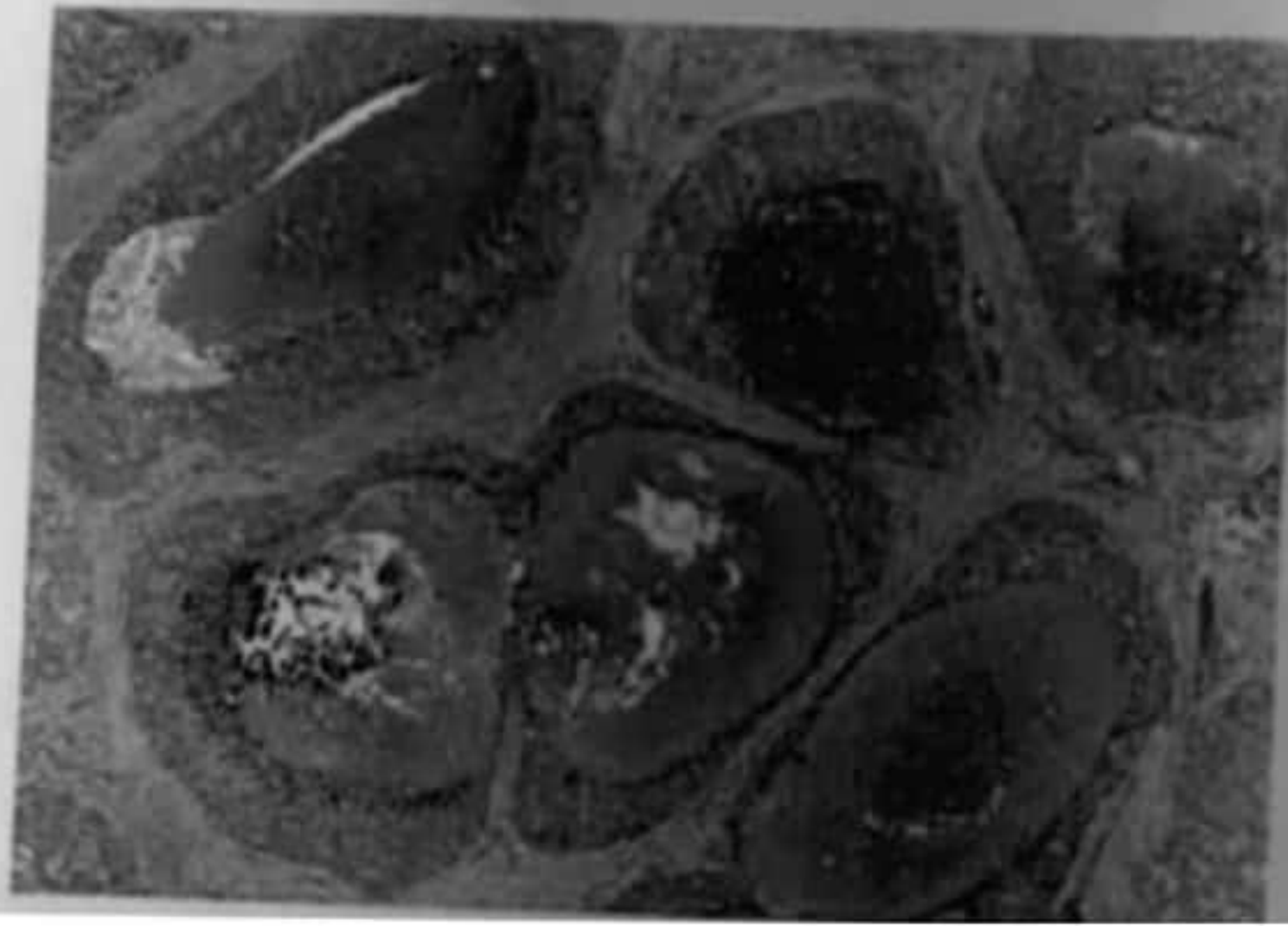
paget disease



A middle aged female presented to surgical OPD with complaints of unilateral erythematous eruption on the nipple of her right breast with a scale crust and nipple discharge. She also complained of pruritis. On examination a lump was also palpable in the same breast. Nipple biopsy showed large polygonal cells with pale cytoplasm and hyperchromatic nuclei.

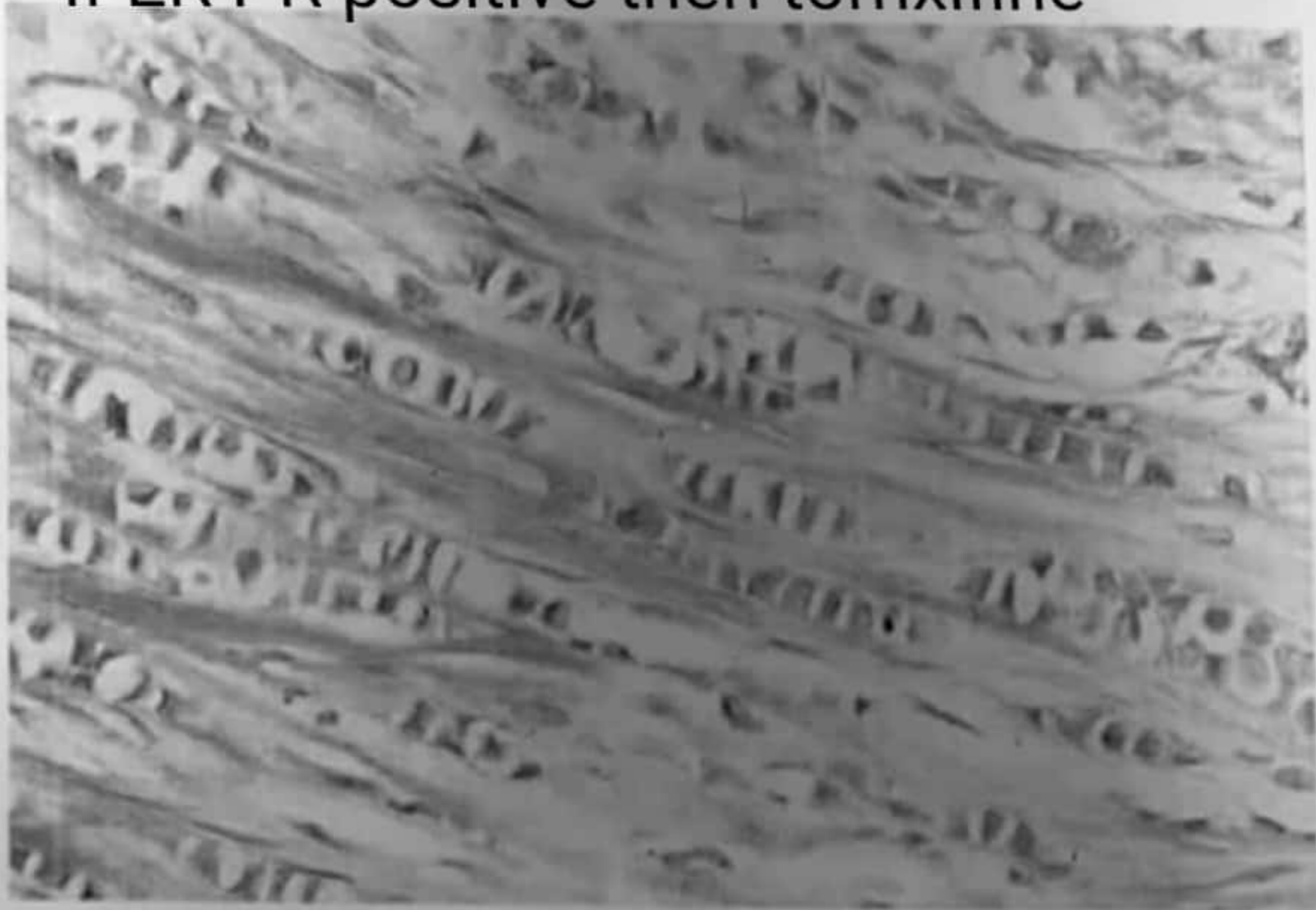
Ductal carcinoma insitu
name of infiltrate in tumor is invasive carcinoma
p63 highlight basement membrane

A 50 year old female presented with lump left breast. The lump was hard and fixed to the surrounding structures. Overlying nipple revealed crusting.



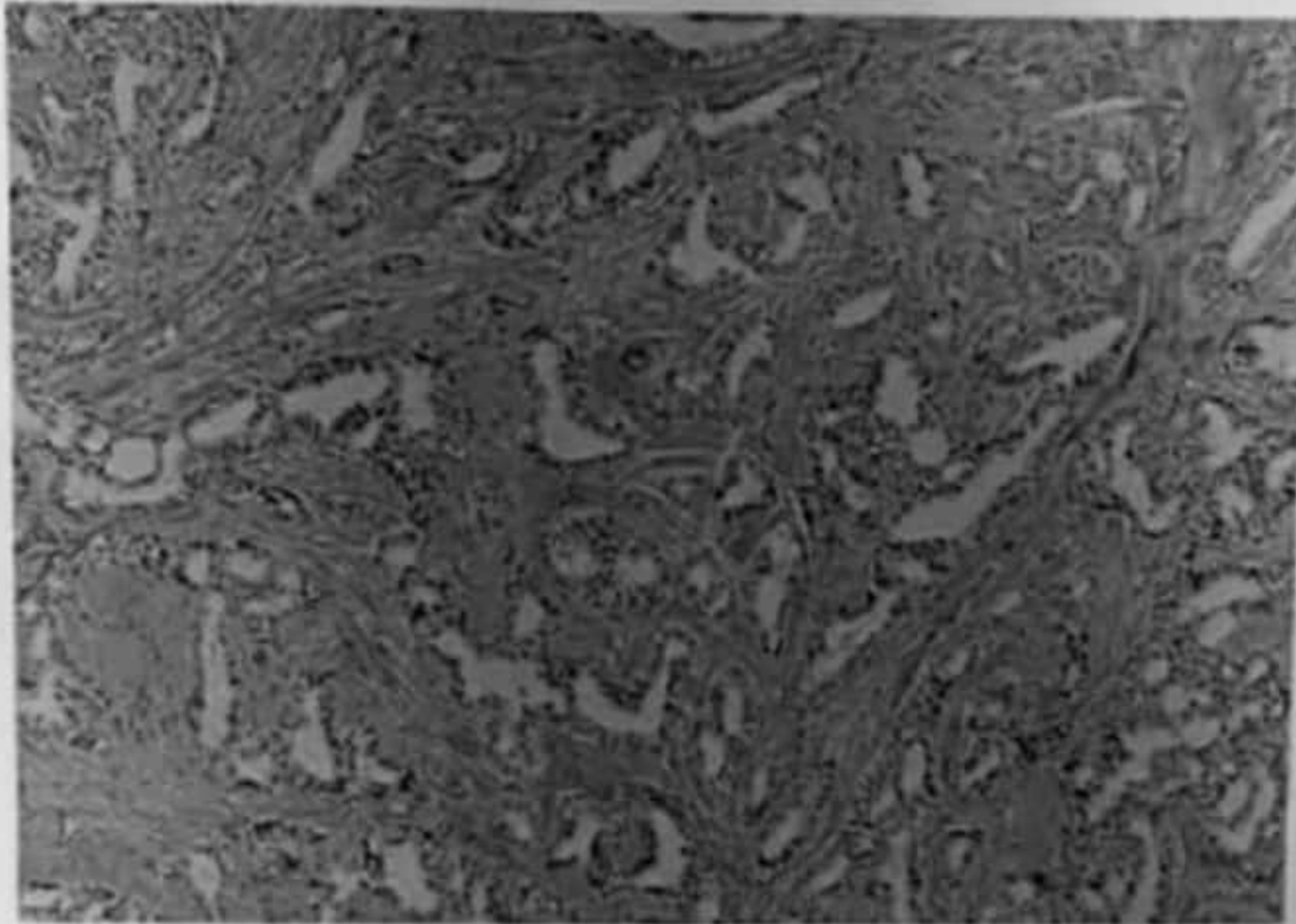
Lobular carcinoma immunohistology:

- thick adherant
- if ER PR positive then tamoxifine



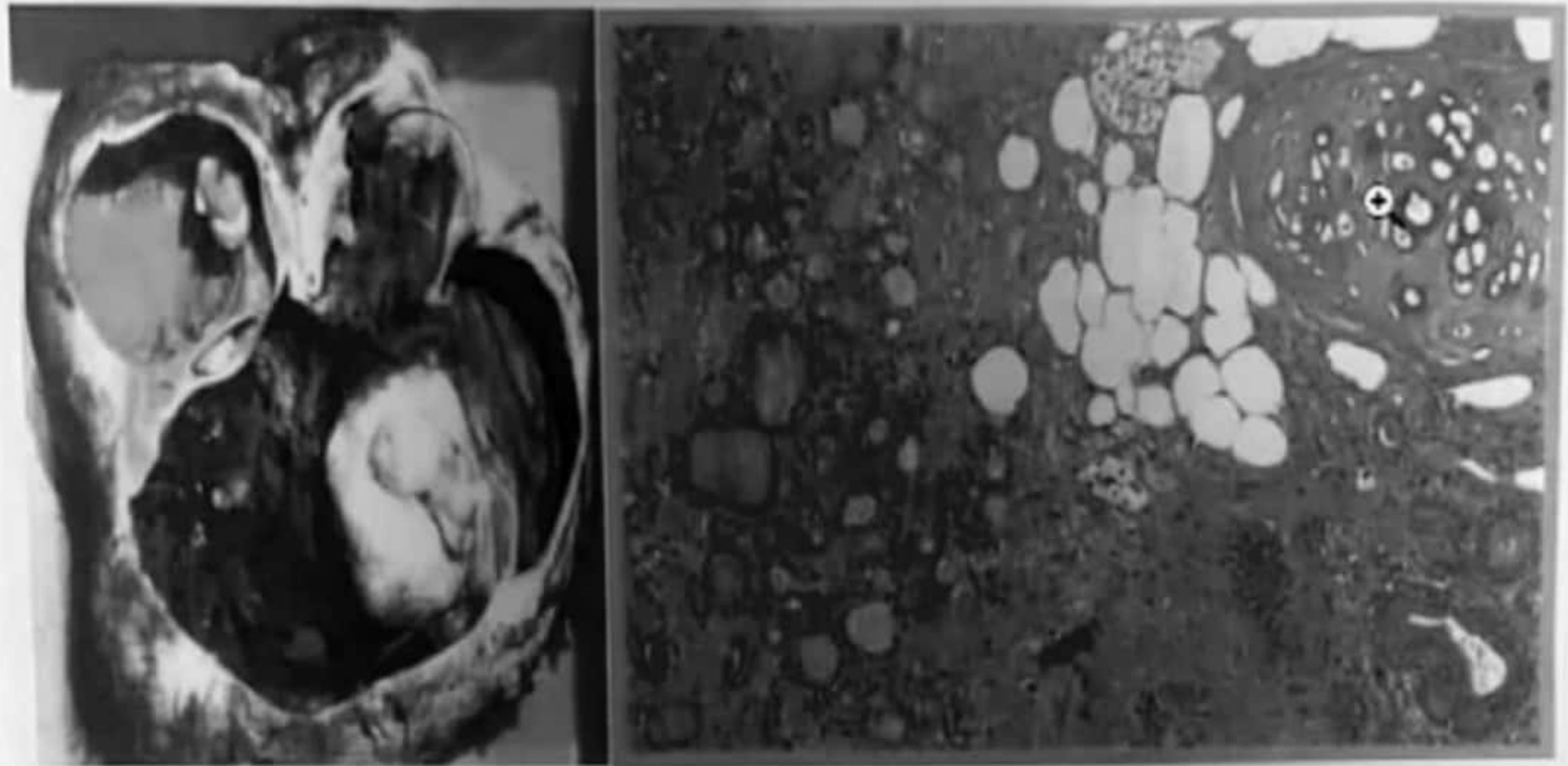
A 45 years old female presented with bilateral breast lumps. The following features are seen in the biopsy of this patient.

Invasive ductal carcinoma



A 70 years old female presented with a left breast mass measuring 4×3 cm with palpable lymph nodes in the axilla. The overlying skin is ulcerated with peau d' orange appearance and the nipple is everted with discharge. There is no history of pain or discharge from the breast. Her mother died of breast cancer.

teratoma site

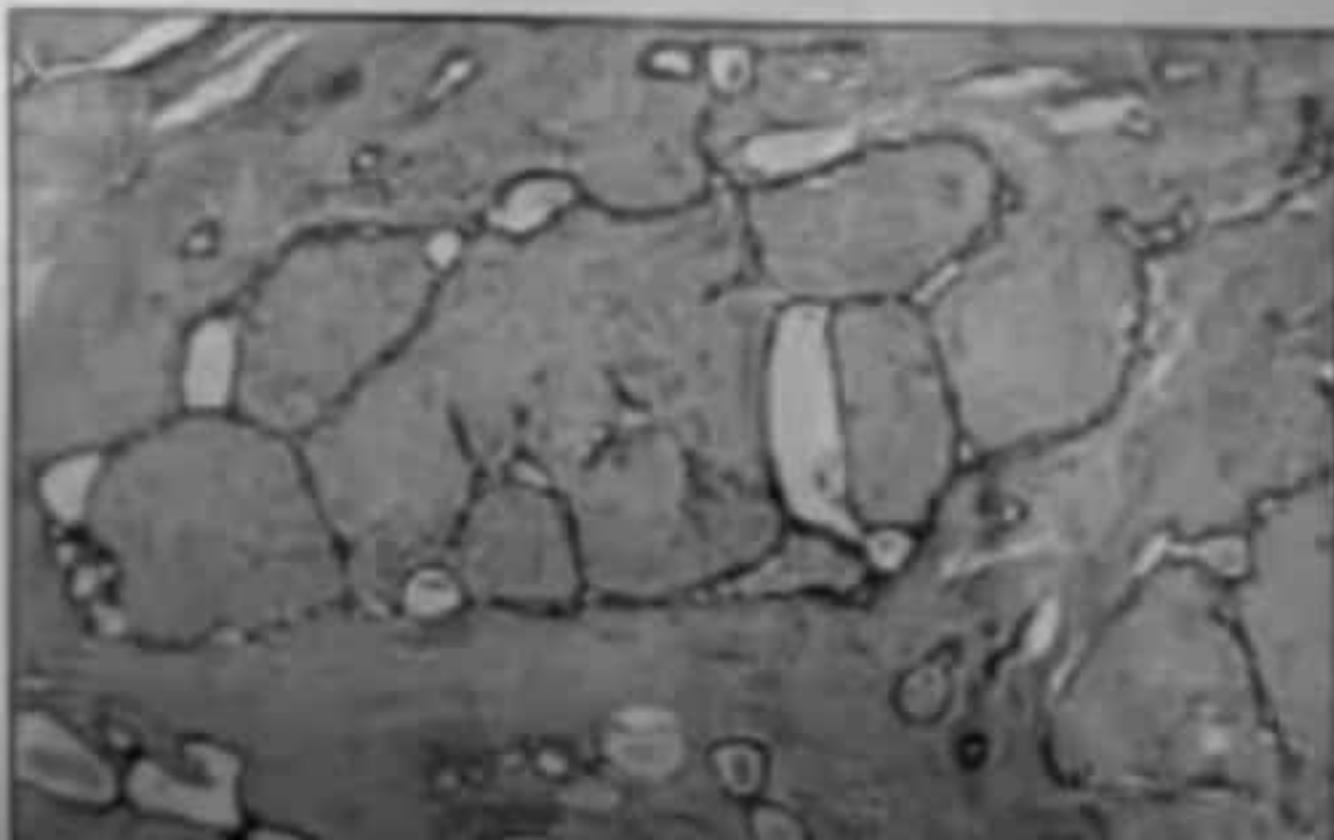


An adult female was diagnosed as having an ovarian cyst which on gross examination was found to have hair and tooth impacted within the cystic cavity. The microscopic section is shown in the picture above.

Fibroadenoma

A 20 years old female comes to surgical OPD with complaint of left breast lump. On examination the lump is firm, non-tender, freely mobile and measures 2×2cm. The nipple and the overlying skin is normal with no gross changes.

She underwent surgical excision of the lump and the gross and microscopic images are given below



Diabetes type 1

Complications of metabolic ketoacidosis

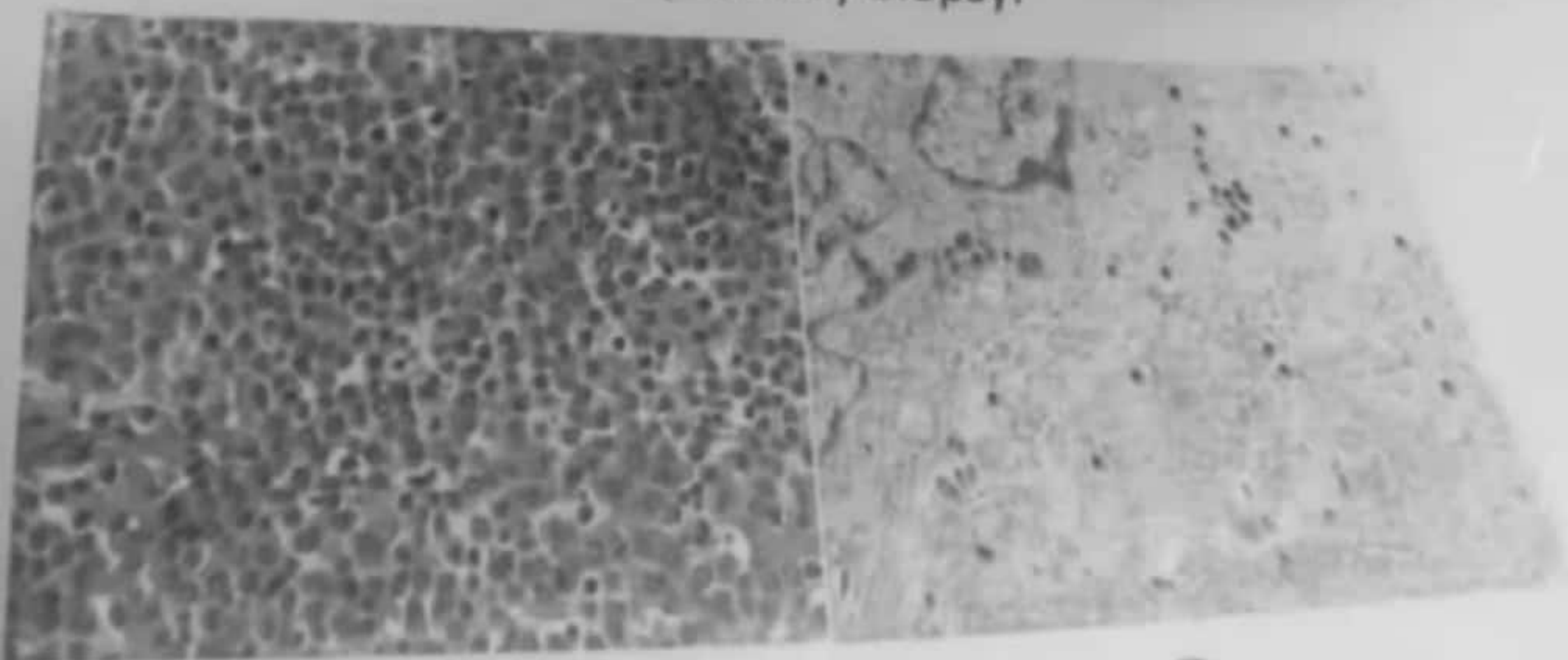
A male patient with history of type 1 diabetes mellitus is suffering from sorethroat for the last few days and presents to emergency department with vomiting, deep and fast breathing, fruity scented breath and mental confusion progressing to coma. His glucose level is 400mg/dl, sodium bicarbonate is less than 15 mEq/L, serum osmolarity is 300 mOsm/L and blood pH is less than 7.30.

pituitary adenoma types differentiate from non neoplastic pituitary adenoma

x +

Johns Hopkins Surg... YouTube Pathology Outlines K! Kahoot! - My Kaho...

A 20 years old female with amenorrhea, galactorrhea, loss of libido and infertility is under diagnostic workup. She has also started to develop visual field abnormalities and elevated intracranial pressure. Her lab investigations show elevated prolactin levels. Below is given microscopic and electron microscopic features of pituitary biopsy.



papillary carcinoma of thyroid morphology

(5) WhatsApp

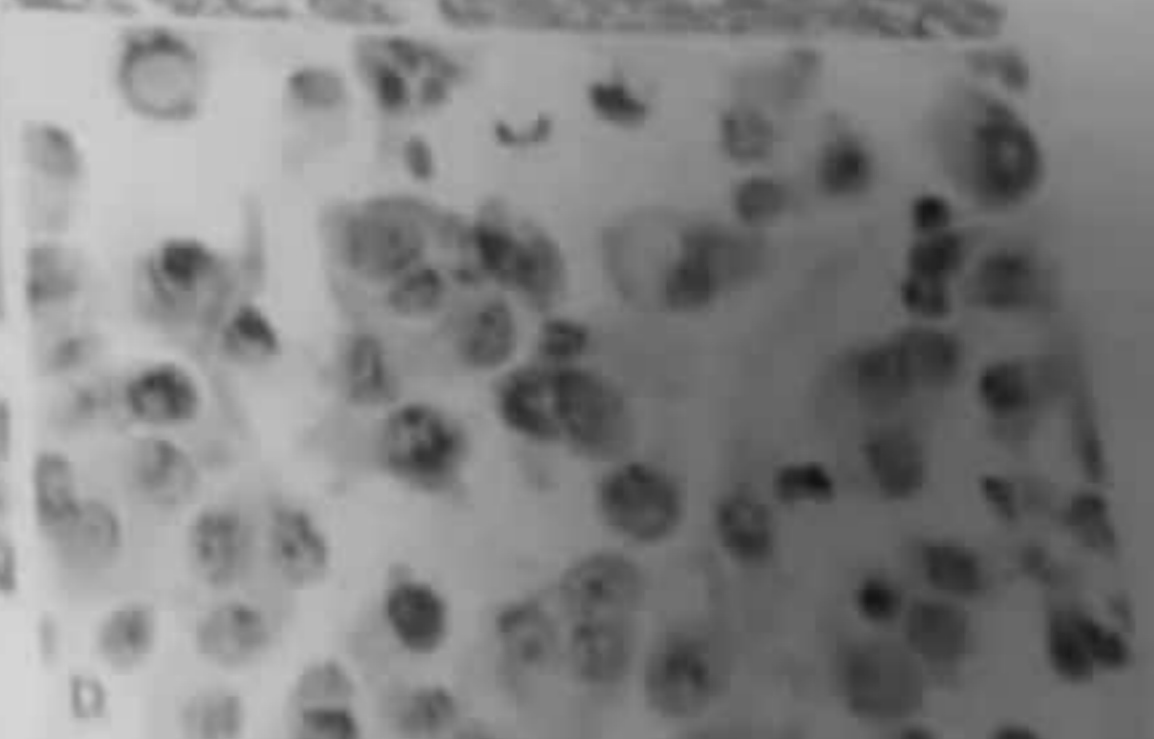
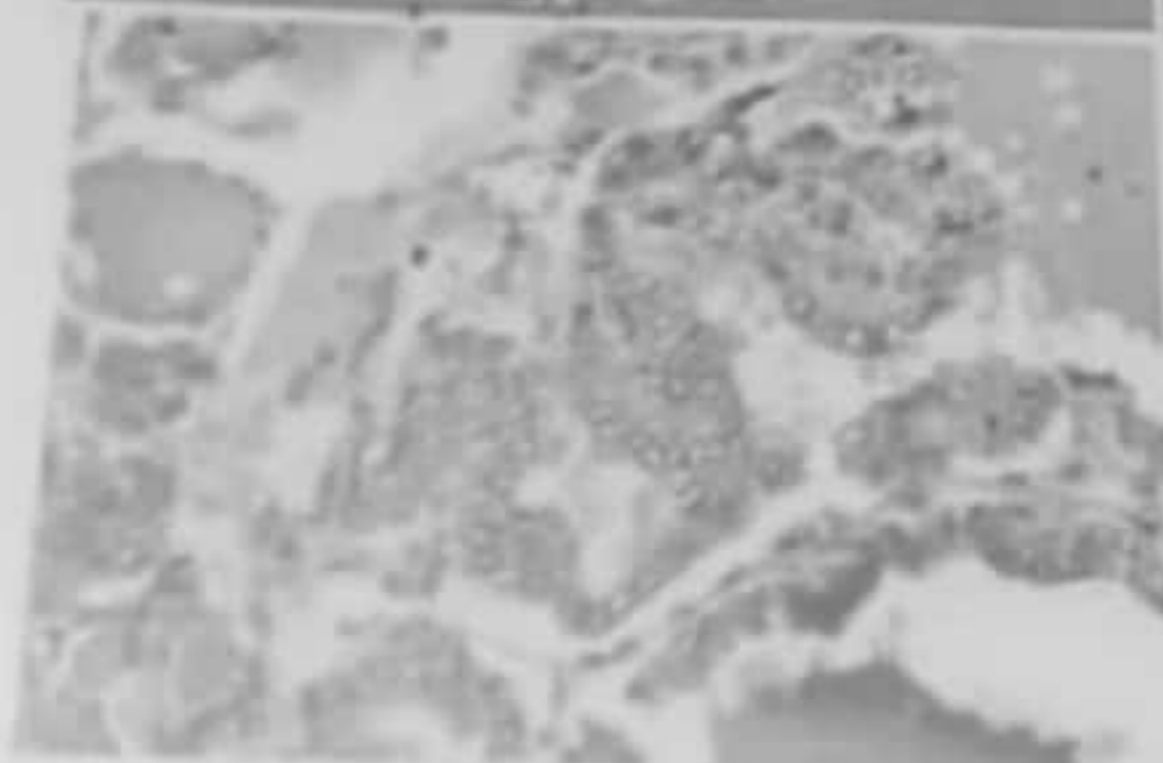
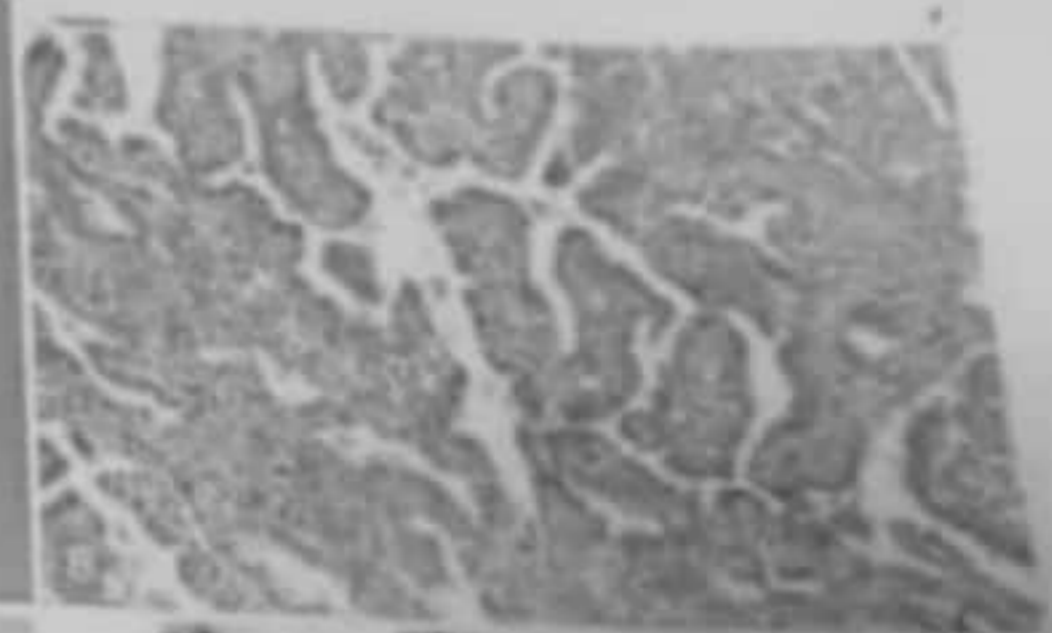
x

+

m

Facebook Johns Hopkins Surg... YouTube Pathology Outlines Kahoot! - My Kaho...

A young female presented with a solitary nodule in the left lobe of thyroid. She has a history of ionizing radiation exposure to the head and neck area. The gross and microscopic features of surgical specimen specifically their nuclear features are shown below



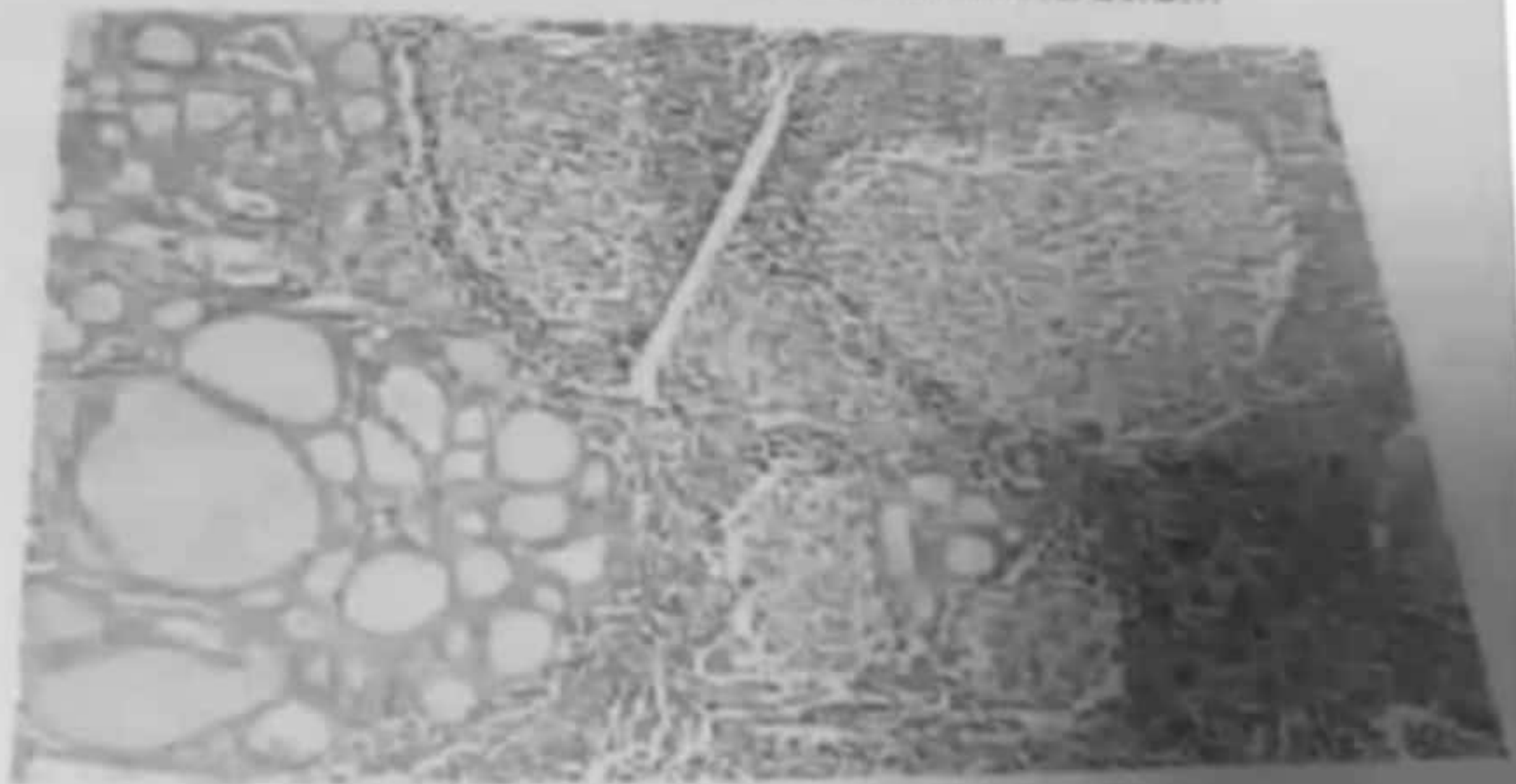
hashimotos thyroiditis antibodies pathogenesis

pp

x +

Johns Hopkins Surg... YouTube Pathology Outlines K! Kahoot! - My Kaho...

A middle aged female with painless symmetric enlargement of thyroid gland, lab investigations show hypothyroidism and thyroid biopsy show intense mononuclear infiltration.



parathyroid adenoma
most common tumor of
parathyroid
diff btwn parathyroid adenoma
and parathyroid hyperplasia

(5) WhatsApp

x +

pp.com

Facebook

Johns Hopkins Surg...

YouTube

Pathology Outlines

K! Kahoot! - My Kaho...

A middle aged female with increased PTH and hypercalcemia shows a well circumscribed and encapsulated nodule in one of the parathyroid gland underwent parathyroid biopsy showing uniform appearing polygonal chief cells with centrally placed nuclei. No mitosis and no invasion is identified. The glands outside the adenoma are normal in size..



pheochromocytoma of adrenal gland morphology

zell balance nets of cell

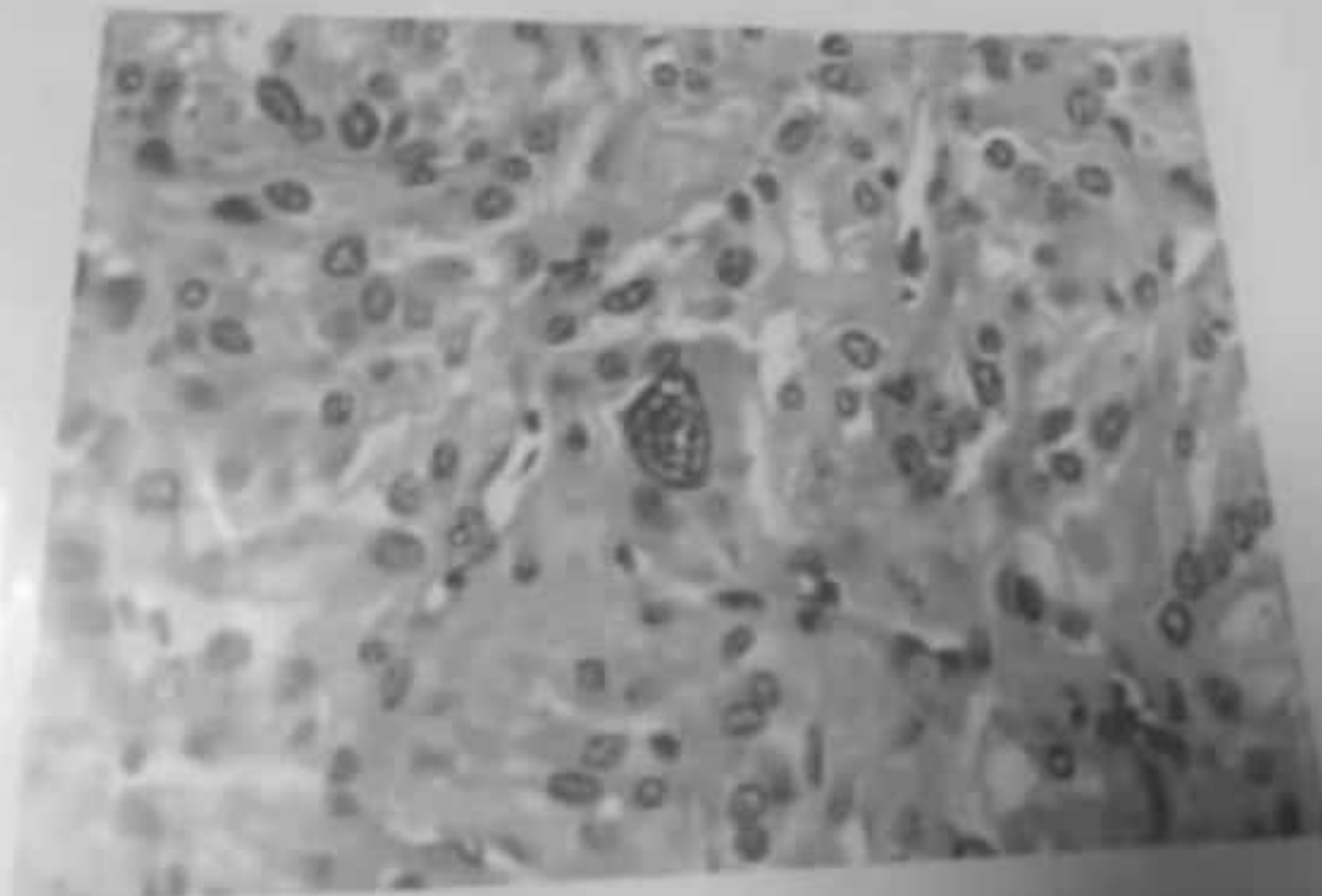
(5) WhatsApp

x +

om

Facebook Johns Hopkins Surg... YouTube Pathology Outlines K! Kahoot! - My Kaho...


A 37 years old women experiences episodes of palpitations, tachycardia, tremors, diaphoresis, headache and hypertension over the past three months. Her lab investigations show increased urinary excretion of catecholamines and Vanillyl mandelic acid. The biopsy of adrenal medulla shows the following features.



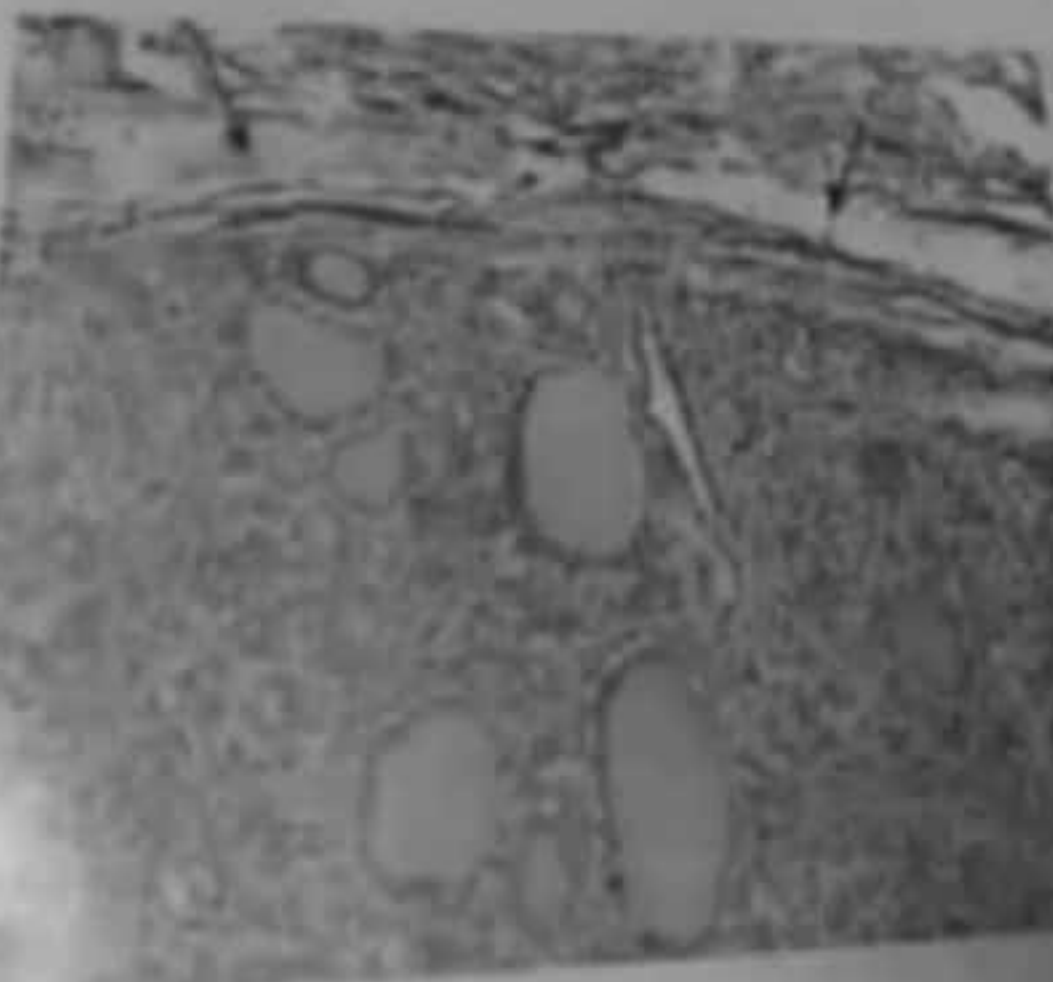
follicular thyroid carcinoma
diff between follicular CA and follicular
adenoma: if capsular invasion present
than carcinoma if absent than adenoma
2) adenoma is benign carcinoma is
malignant

5) WhatsApp

x +

Facebook  Johns Hopkins Surg...  YouTube  Pathology Outlines  Kahoot! - My Kaho...

A 40 years old female presents with a cold nodule in the right lobe of thyroid gland. She is resident of an area where dietary iodine deficiency is prevalent. Surgical excision is carried out and the histological sections reveal follicles containing colloid and the histological sections reveal follicles containing colloid and the histological sections reveal follicles containing colloid lined by cuboidal cells which are fairly uniform. Histologic sampling of tumor-capsule-thyroid interface reveals vascular invasion.



acromegaly

x +

Johns Hopkins Surg... YouTube Pathology Outlines K! Kahoot! - My Kaho...

An adult male presents with enlarged hands and feet, coarsened enlarged facial features, coarse, oily, thickened skin, Excessive sweating and body odor. His growth hormone levels and IGF-1 levels are raised.



burkit lymphoma translocation NHL types names

WhatsApp


x +

ebook

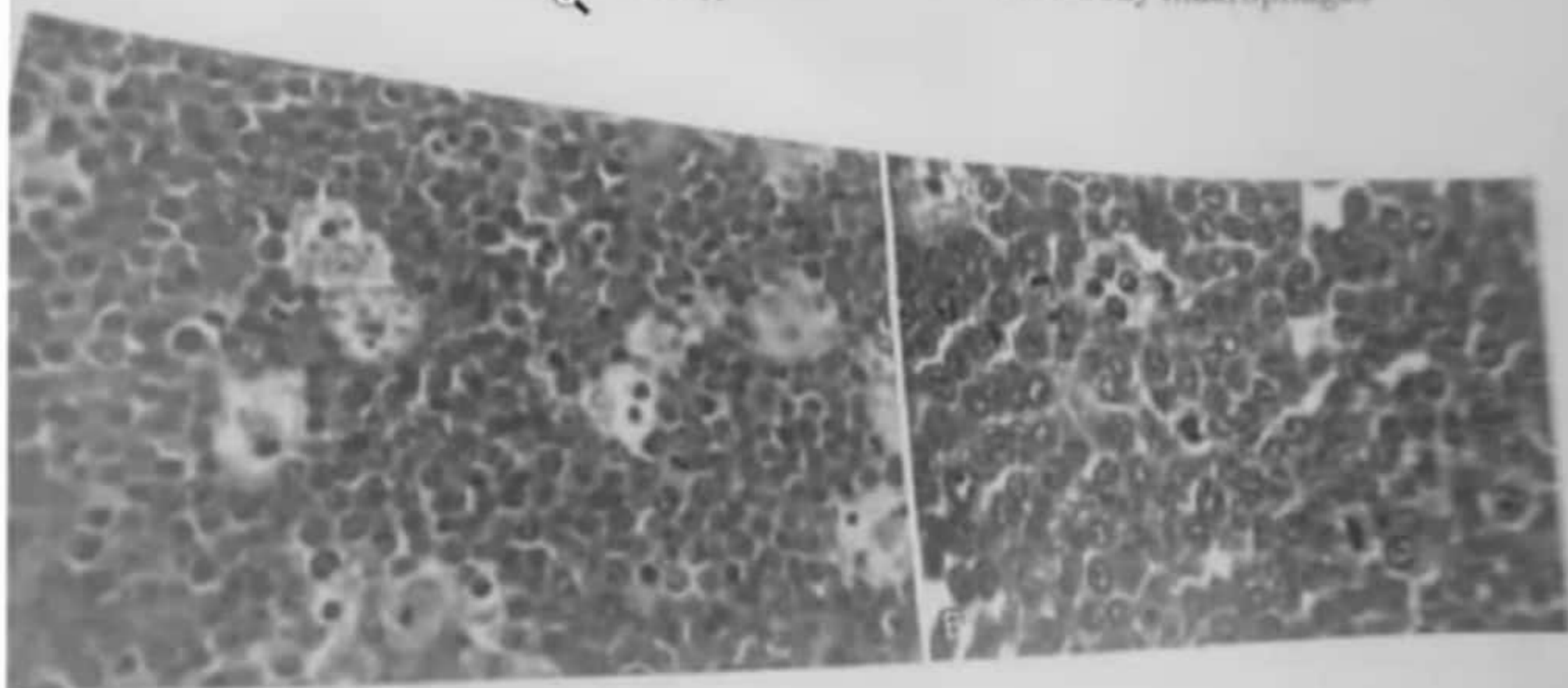
 Johns Hopkins Surg...

 YouTube

 Pathology Outlines

 Kahoot! - My Kaho...

A 5 year old African male presented with a mass involving the mandible and shows unusual predilection for abdominal viscera as well. Microscopy reveals sheets of malignant lymphoid cells with many tangible body macrophages imparting starry sky appearance.



aplastic anemia bone marrow findings

x +

Johns Hopkins Surg...

YouTube

Pathology Outlines

K! Kahoot! - My Kaho...

OSPE STATION BLOOD ANEMIA

A 38 year old female presented with anemia, Her CBC examination reveals pancytopenia. Bone marrow aspiration reveals dry tap.

Carefully examine the following bone marrow slide and answer the questions.



hodgkin lymphoma morphology types HL RS cells types (variants)

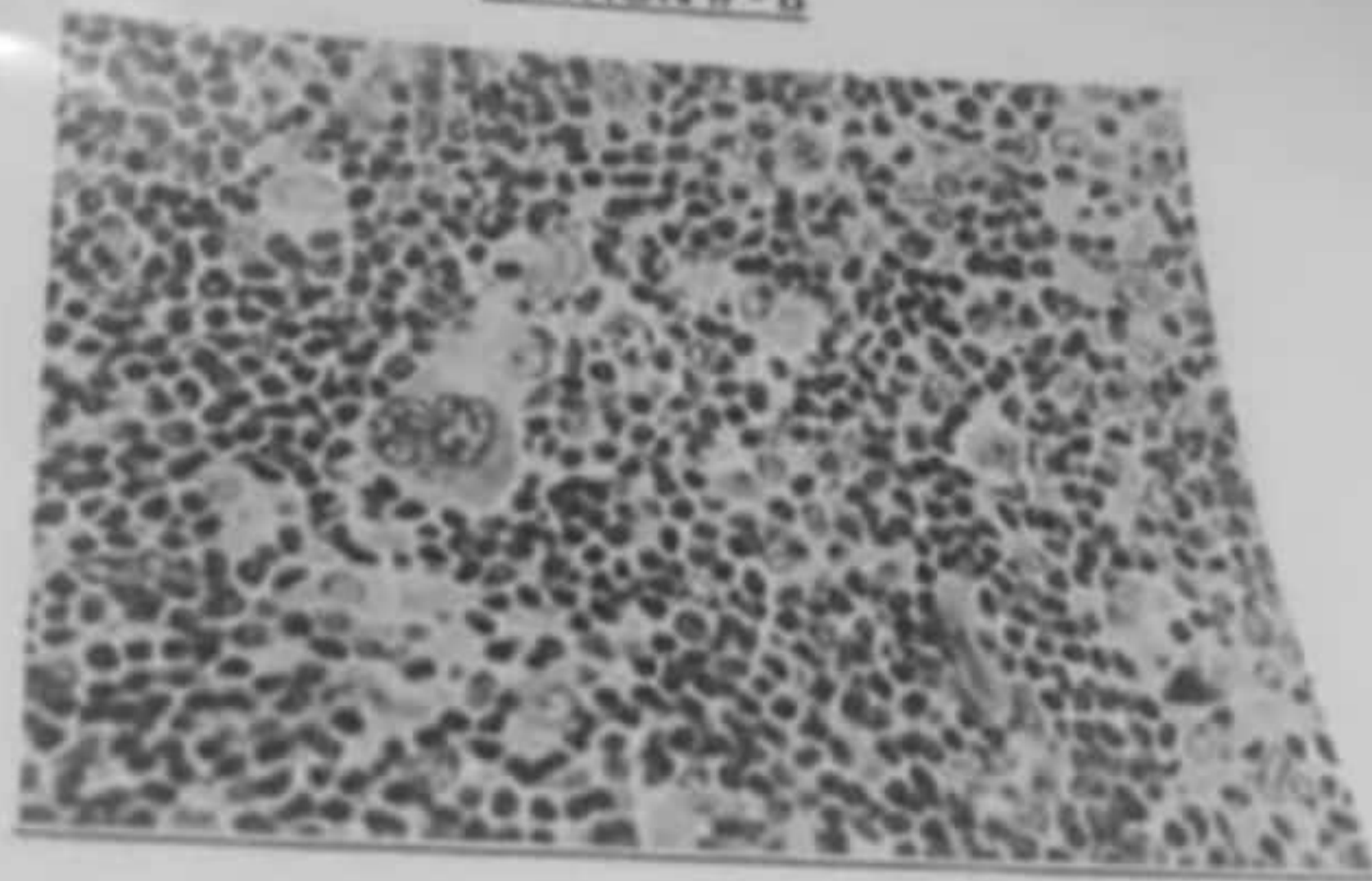
× +

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DEPARTMENT OF PATHOLOGY, ANMC, LAHORE

OSPE TEST held on 16/12/2016

STATION # - 8



A 25 year old female presented in OPD with the complaints of fever, weight loss, and cervical lymphadenopathy. Her FBC was normal lymph node biopsy is given

DIC

schistocytes present
low platelets

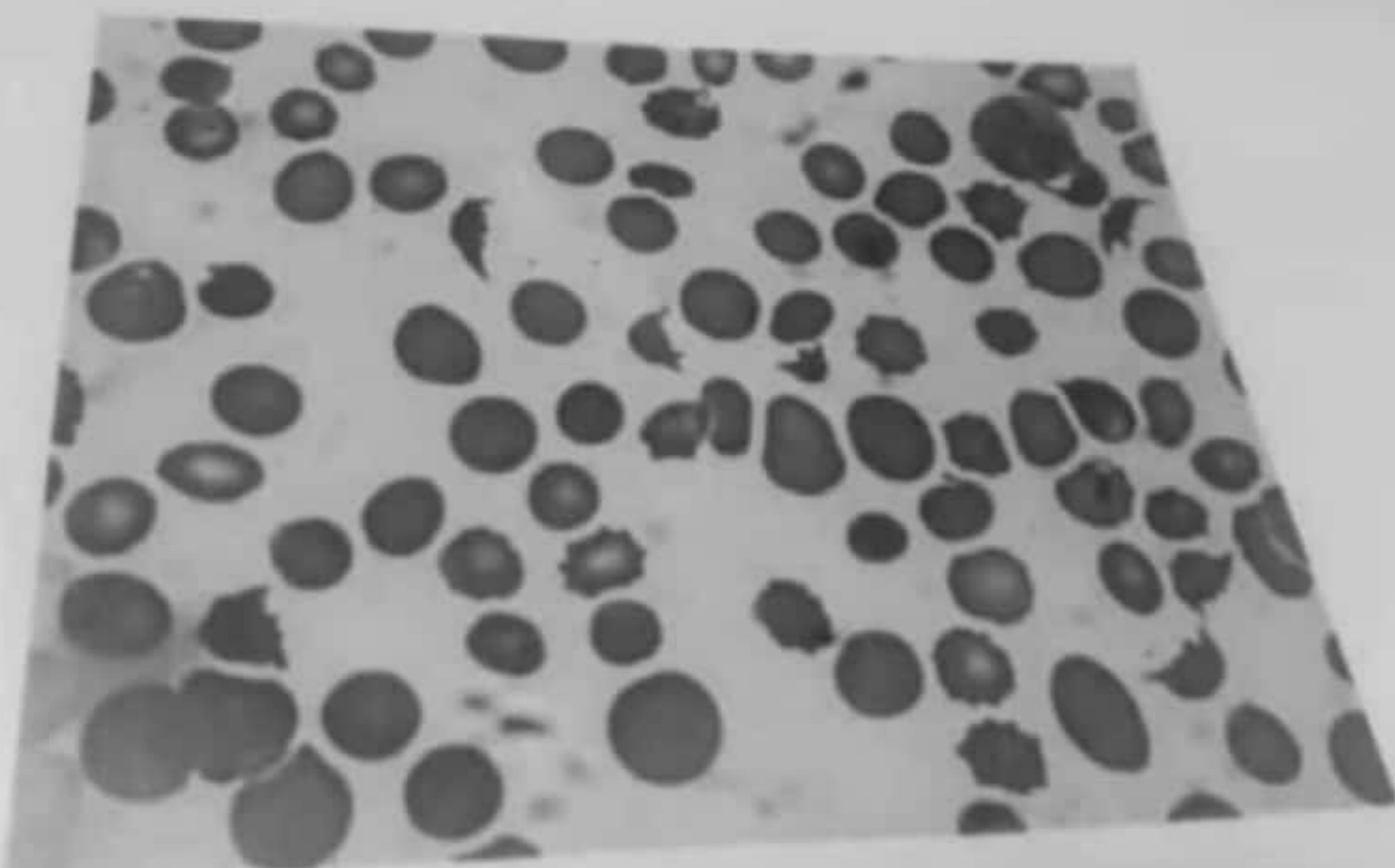
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OSPE STATION BLOOD

A 60 year old male developed prostatic adenocarcinoma. After some years of diagnosis, he died of complications of malignant tumour and there were found microthrombi in his vessels. A diagnosis of DIC was made.

Carefully examine the following slide and answer the following questions.

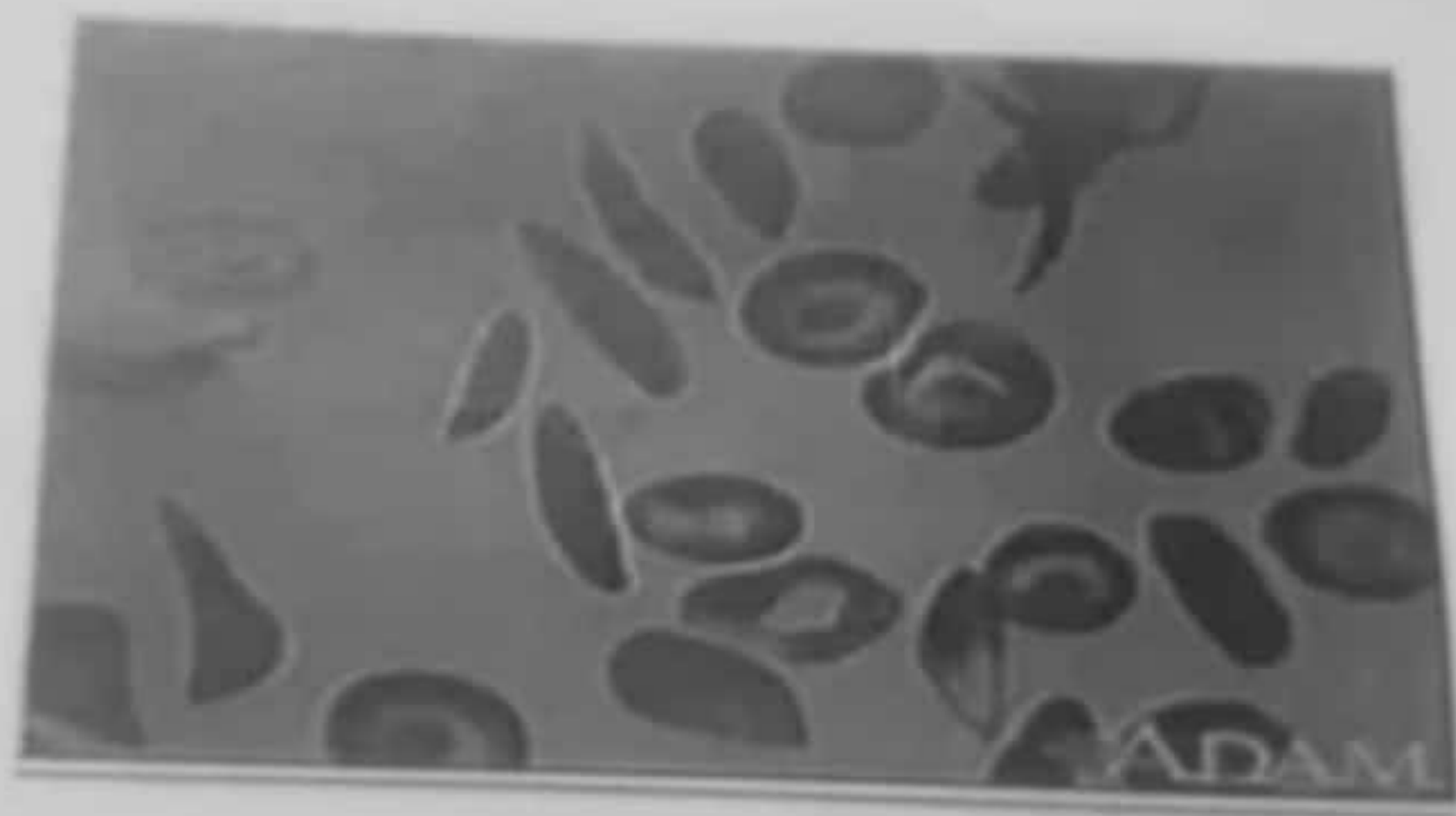


sickle cell anemia mutation : glutamate replace with valine complications

x +

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A 8 year old African child who presented with severe anemia and splenomegaly. His complete blood counts are Hb 5gm/dl; MCV 80 FL; MCH 28pg; MCHC 32%. HB electrophoresis showed increased Hb.

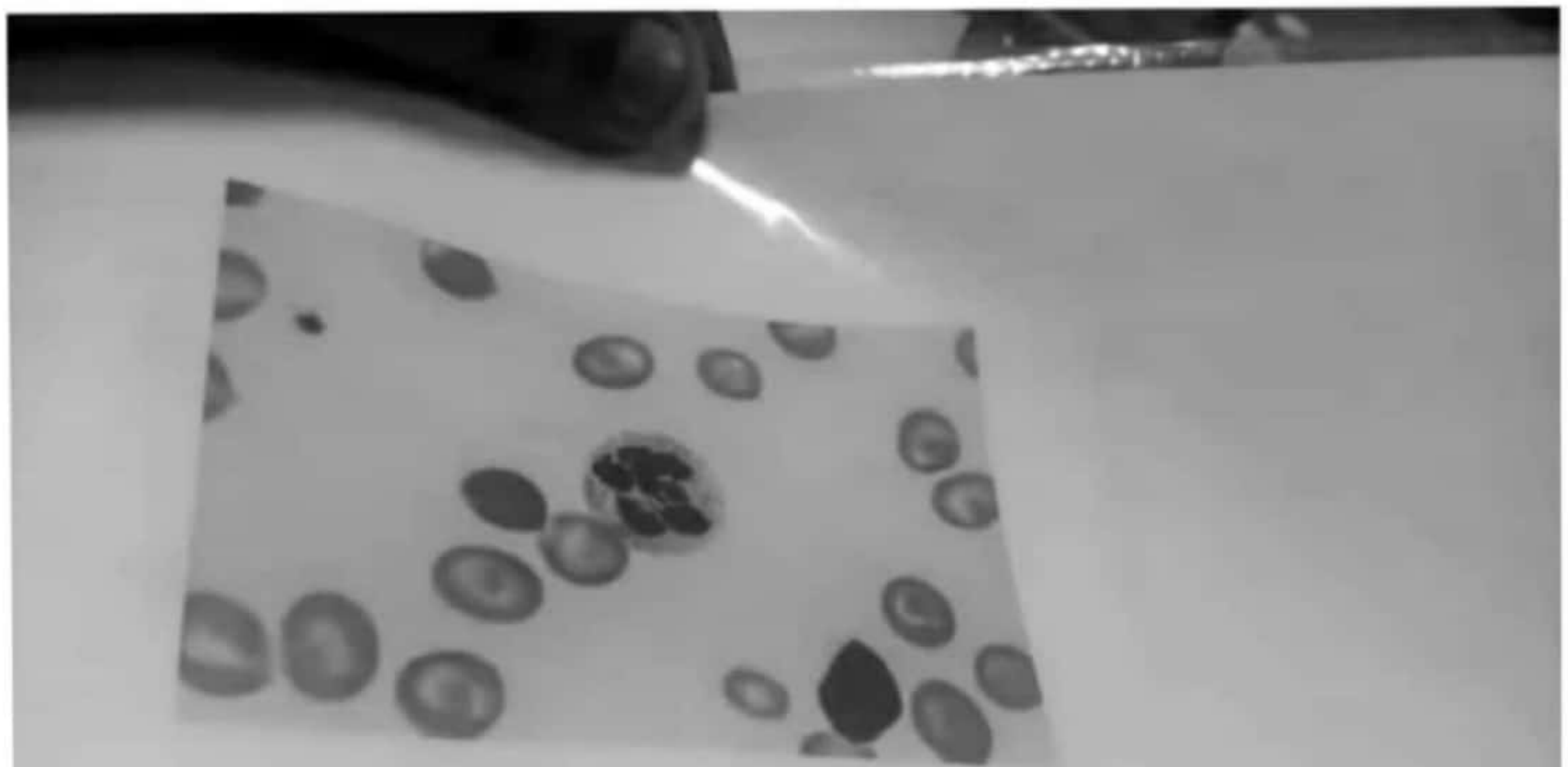
megaloblastic anemia
causes; folic acid and vitB12
deficiency
smear contain; hypersegmented
neutrophil

sApp

x

+

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A 40 years old male comes to the OPD with complaint of numbness and tingling sensation in the hands. He has been experiencing the weakness and numbness for 3 months.

multiple myeloma

investigations

×

+

investigations

Johns Hopkins Surg...



YouTube

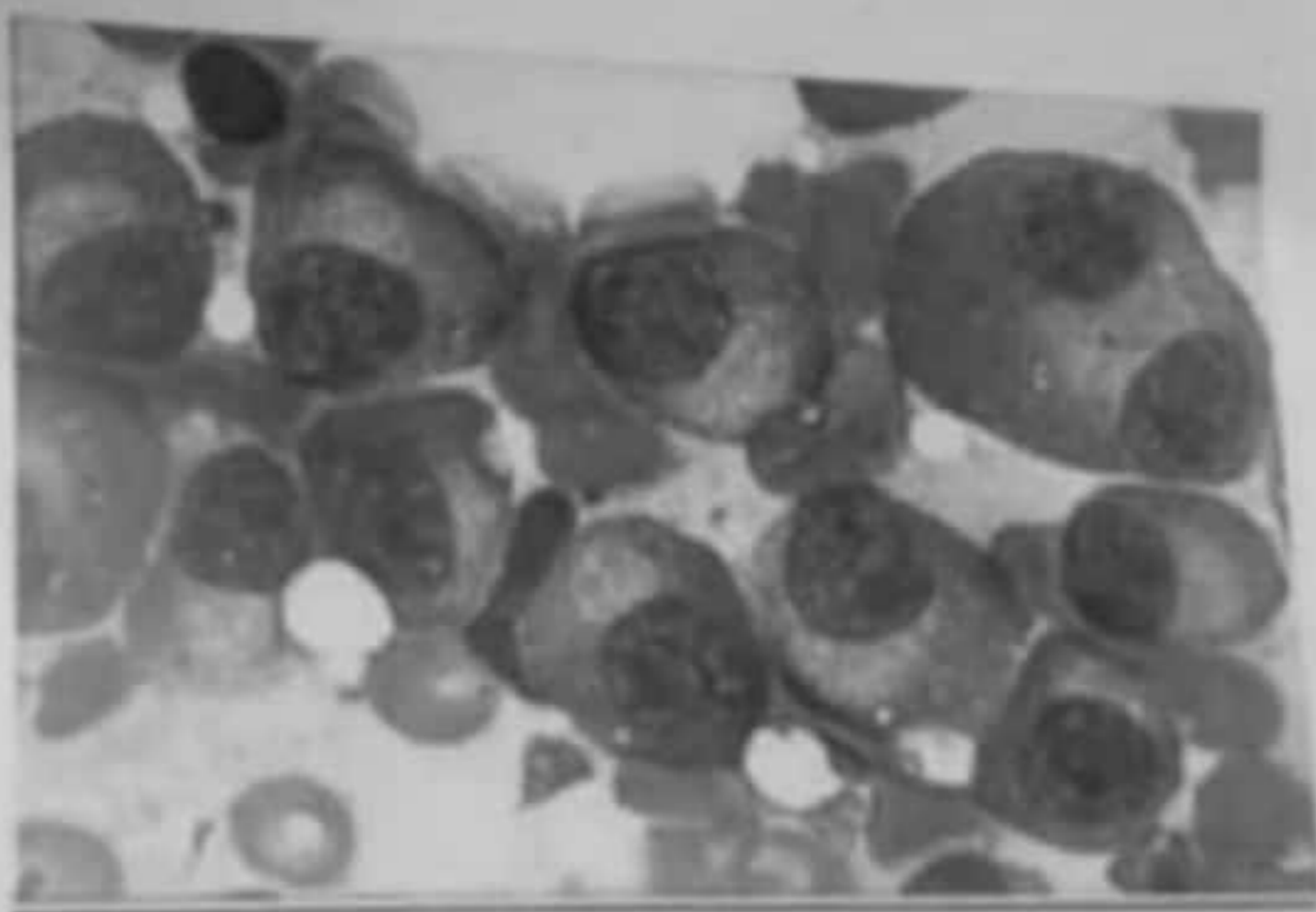


Pathology Outlines



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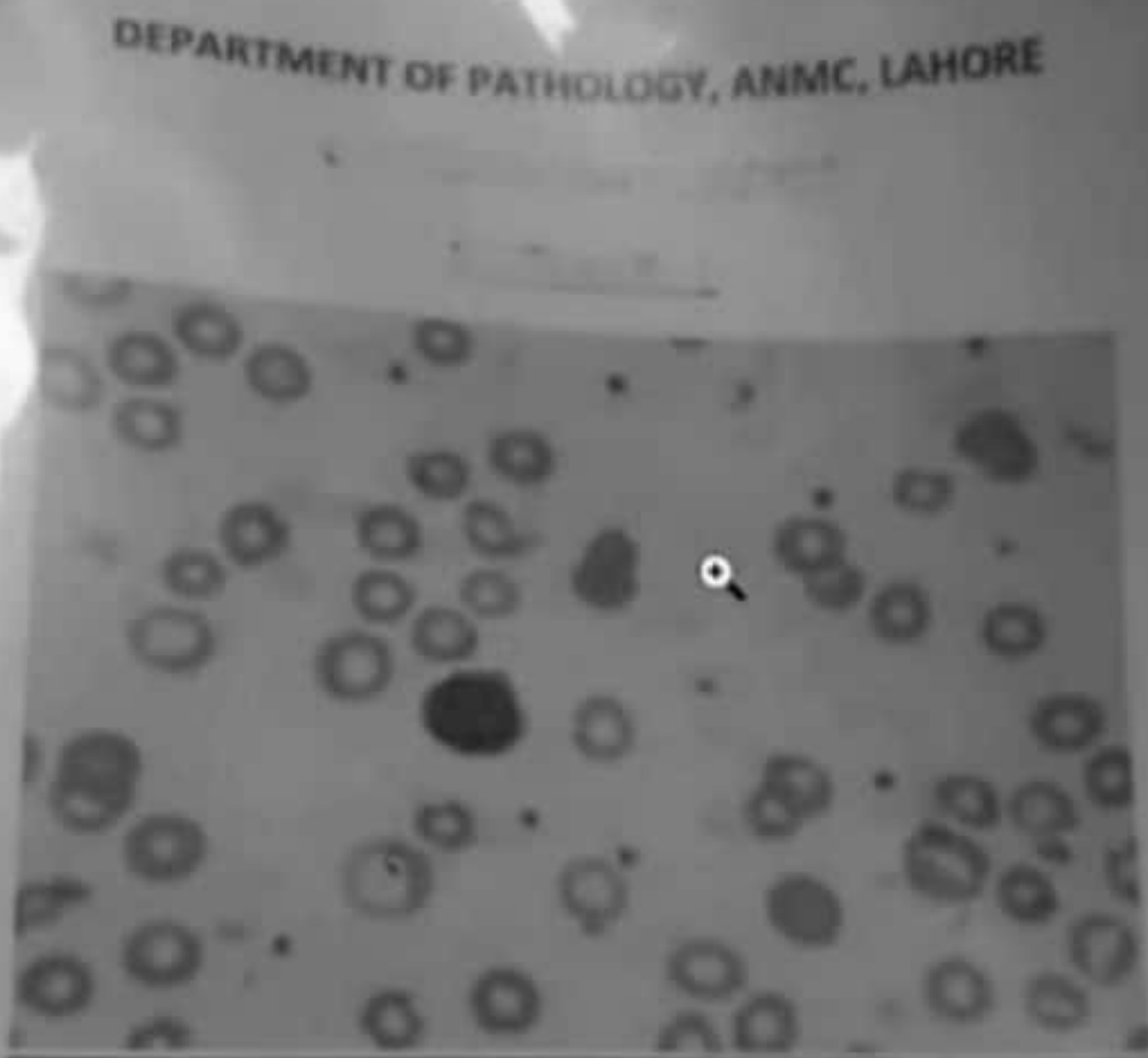


A 50 year old female presented with high grade fever, weight loss and bone pains.
Radiological examination revealed sharply punched out lesions in skull.
Electrophoresis revealed M -band.

iron deficiency anemia
types of anemia
microcytic anemia occur in
which diseases
erythropoietin level reduce

× +

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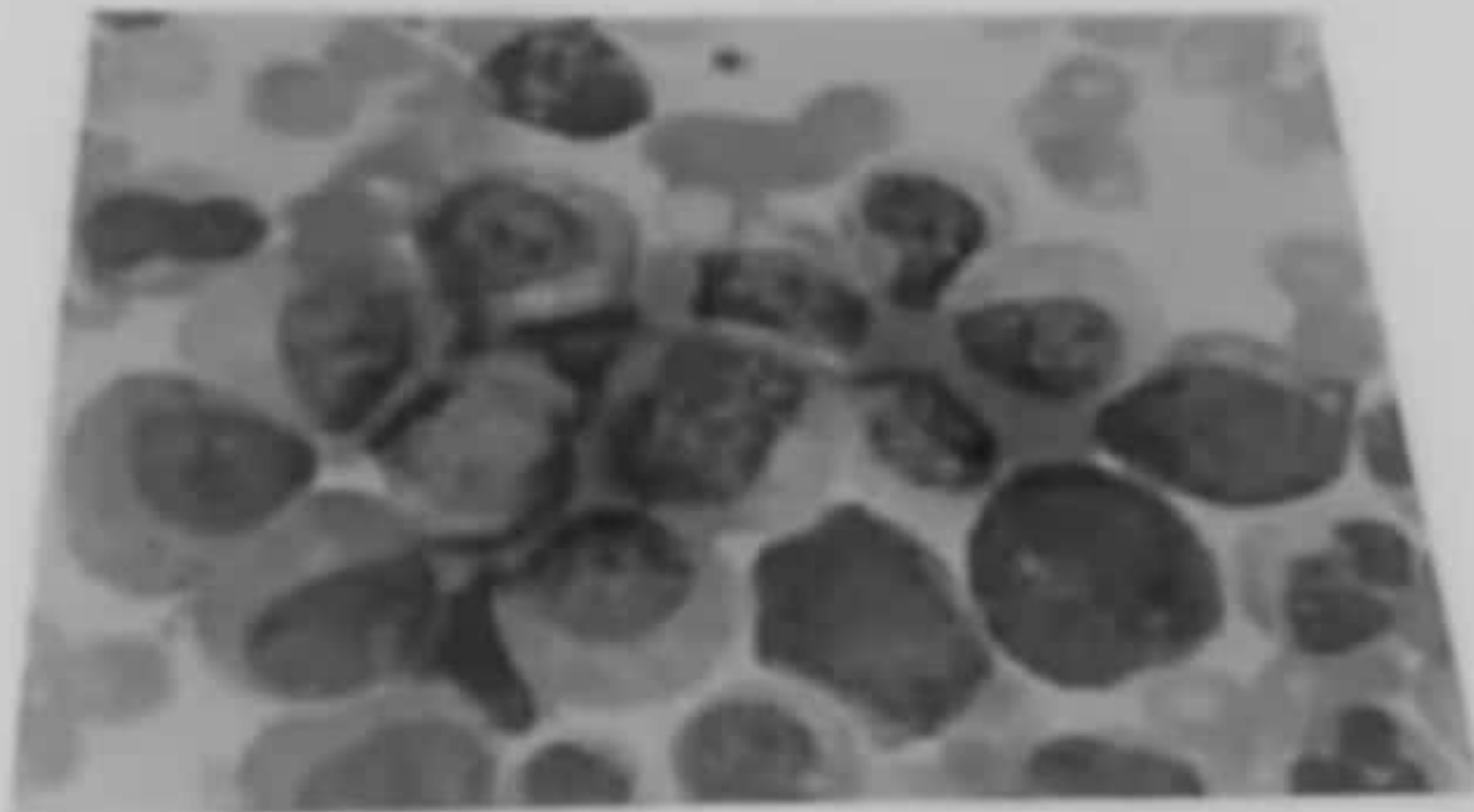
A 45 year old female presented with excessive menstrual bleeding for the last one year. She looked pale, her Full blood picture showed Hb 8g/dl, MCH 19pg, MCv 60 fl, serum ferritin was reduced and peripheral smear was taken.

chronic myloid leukemia
morphology
chromosome : ABL BCR mutation
phaldephia chromosome (9.22)

x +

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A 40 year old male presented with fever and splenomegaly. His Lab counts are
Hb:9g/dl;WBC 165000;platelets:765000;Pro-myelocytes:8%; myelocytes 3%
metamyelocytes 13%, neutrophils 37%, blast cells 3%, eosinophils 2%stabs.7%

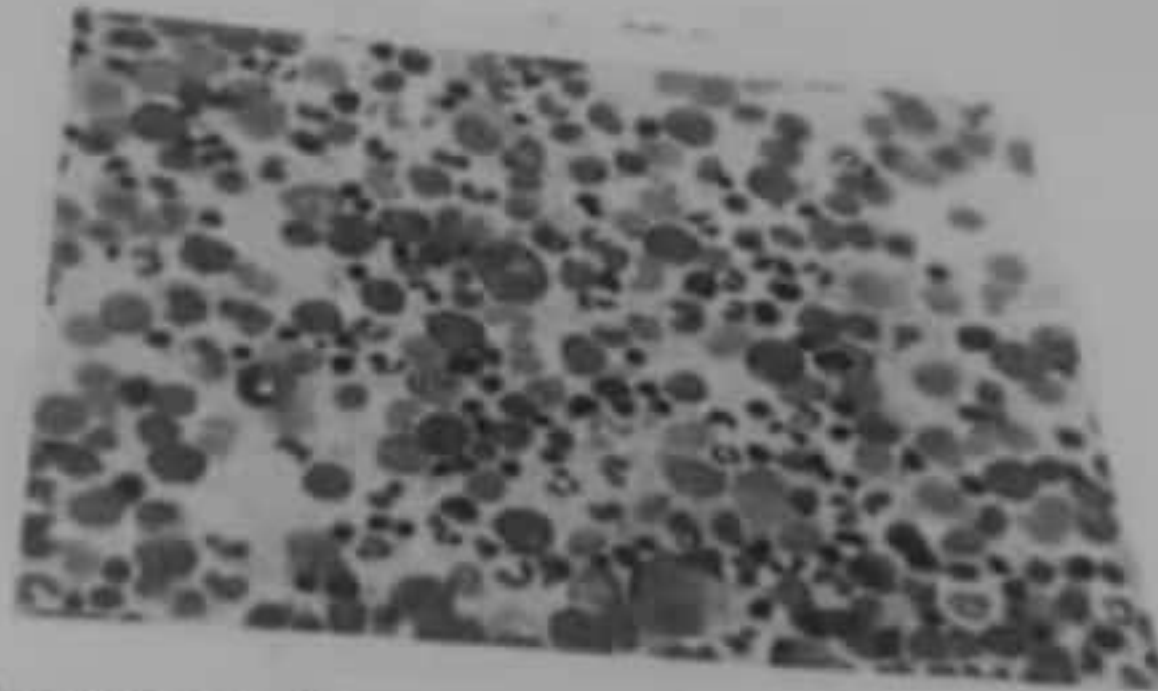
polycythemia causes; mutation J62K2B6 level of erythropoitin

WhatsApp

x +

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A 55 year old male presented to OPD with a complain of tinitis, vertigo. On examination, his face and hands were plethoric. His labs showed Hb 22 g/dl, HCT 0.65/l, MCV 90fl, MCH 30pg, RBC count $7 \times 10^{12}/l$, ESR 0. TLC $15 \times 10^9/l$.

Carefully examine the given photograph and answer the following questions:

giant cell arthritis

types of arteries involve


sApp

x +

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 YouTube

 Pathology Outlines

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SGD

Topic: vasculitis

Scenario#1

A 55-year old man presents with right sided facial pain with palpable left temporal artery as shown in the figure. Biopsy of the artery reveals fragmentation of internal elastic lamina, with granulomas containing langhan and foreign body giant cells



kaposi sarcoma morphology stages ; nodule. patch . plaque different types

sApp

x

+

ok

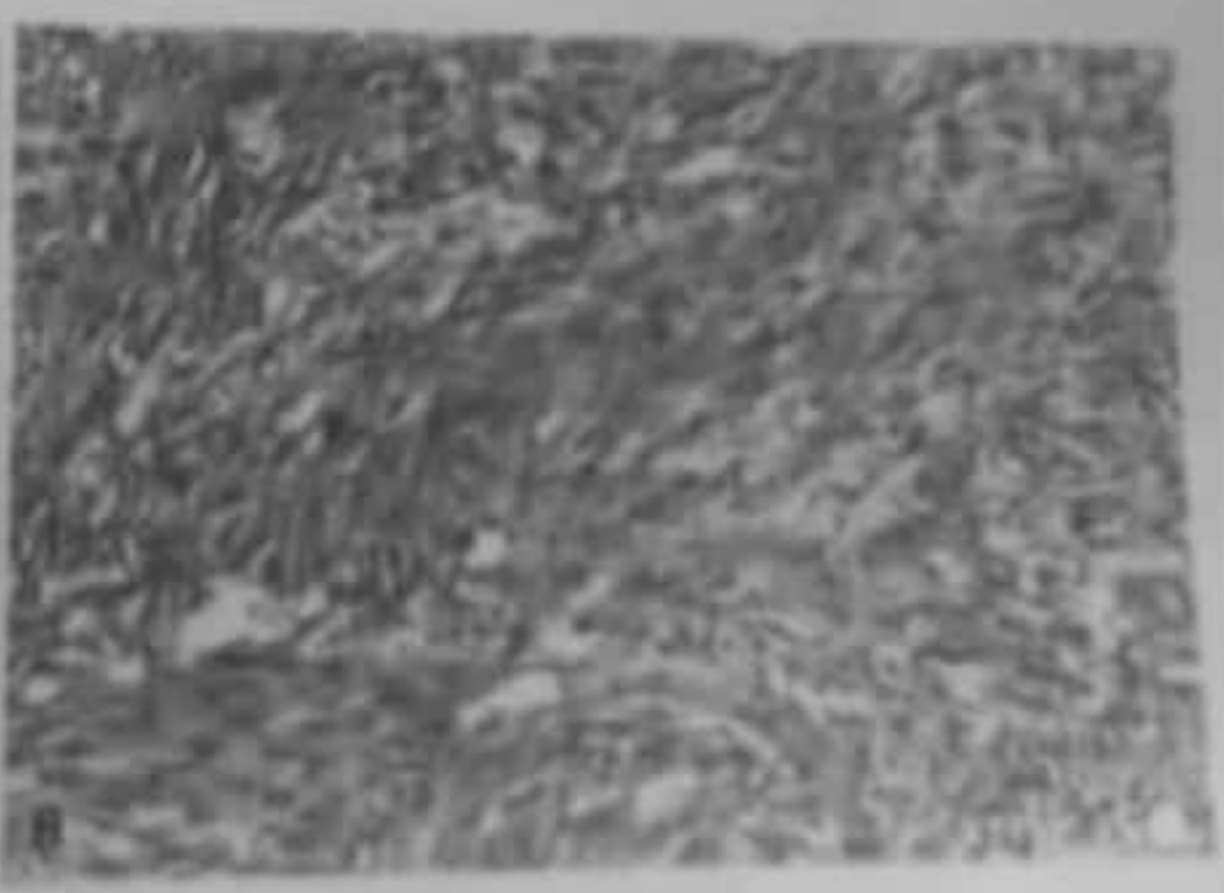
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Ospe Station:

Topic CVS(Vessels)

A 35 year old male presented with a rash and plaque like lesion on calf, he is also diagnosed with AIDS.

The Lesion seems to be associated with HHV8.



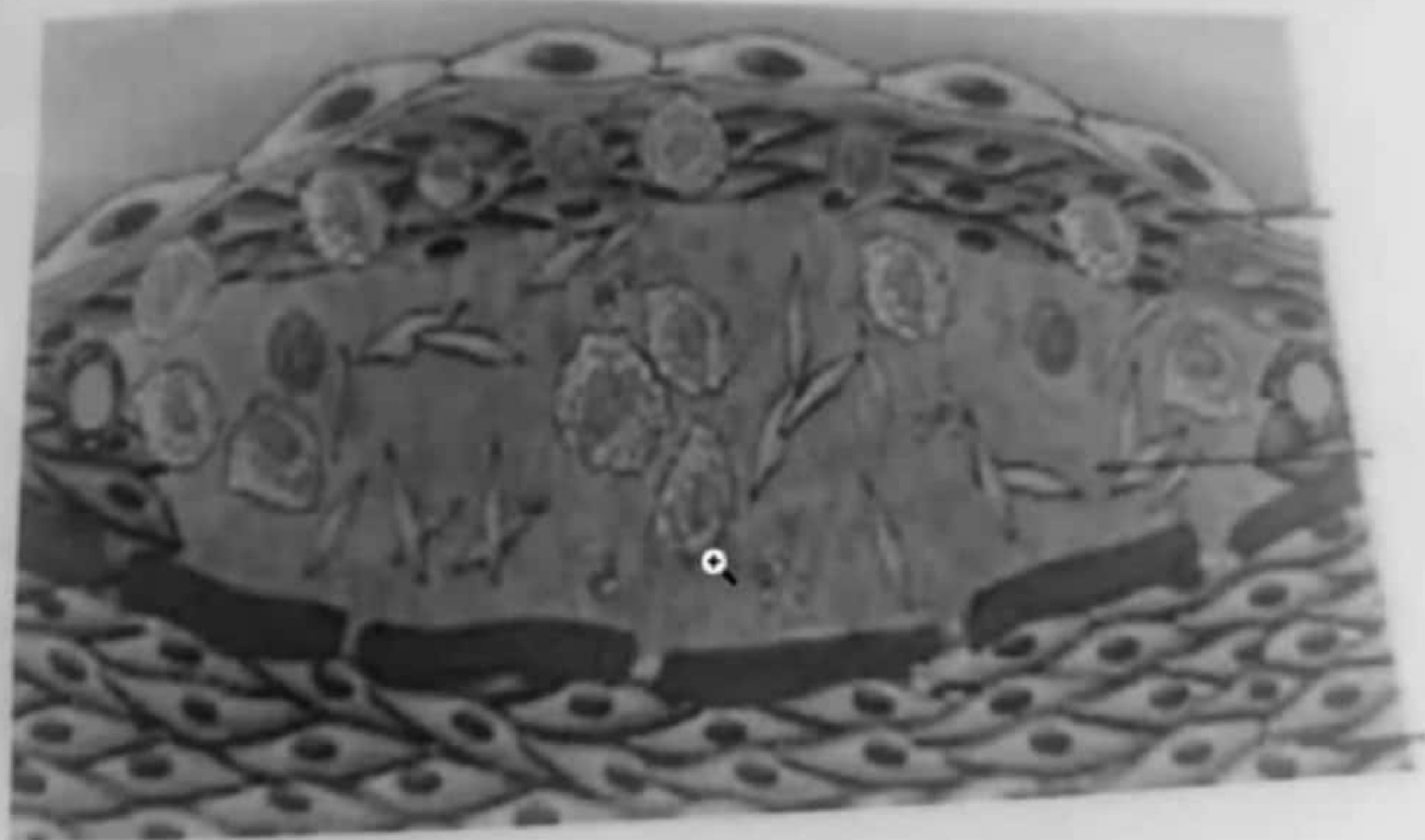
atheroma

complications of atheroma

morphology of atheroma

x +

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aschoff bodies cells present in it

x +

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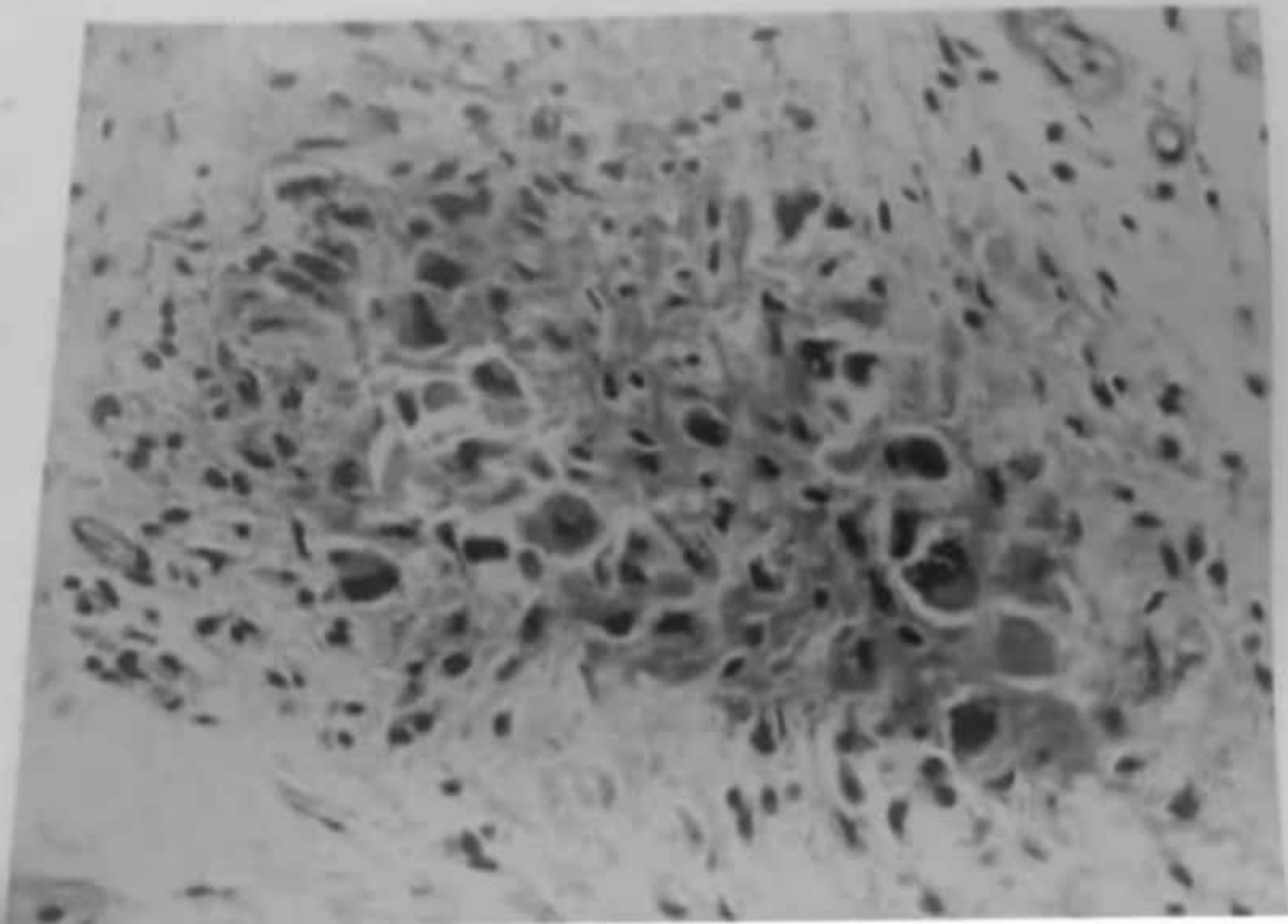


Pathology Outlines



Kahoot! - My Kaho...

A 29 years old male was diagnosed as a case of Rheumatic heart disease. He had vegetations along the line of closure of valves. Biopsy of the vegetations revealed the following morphology.

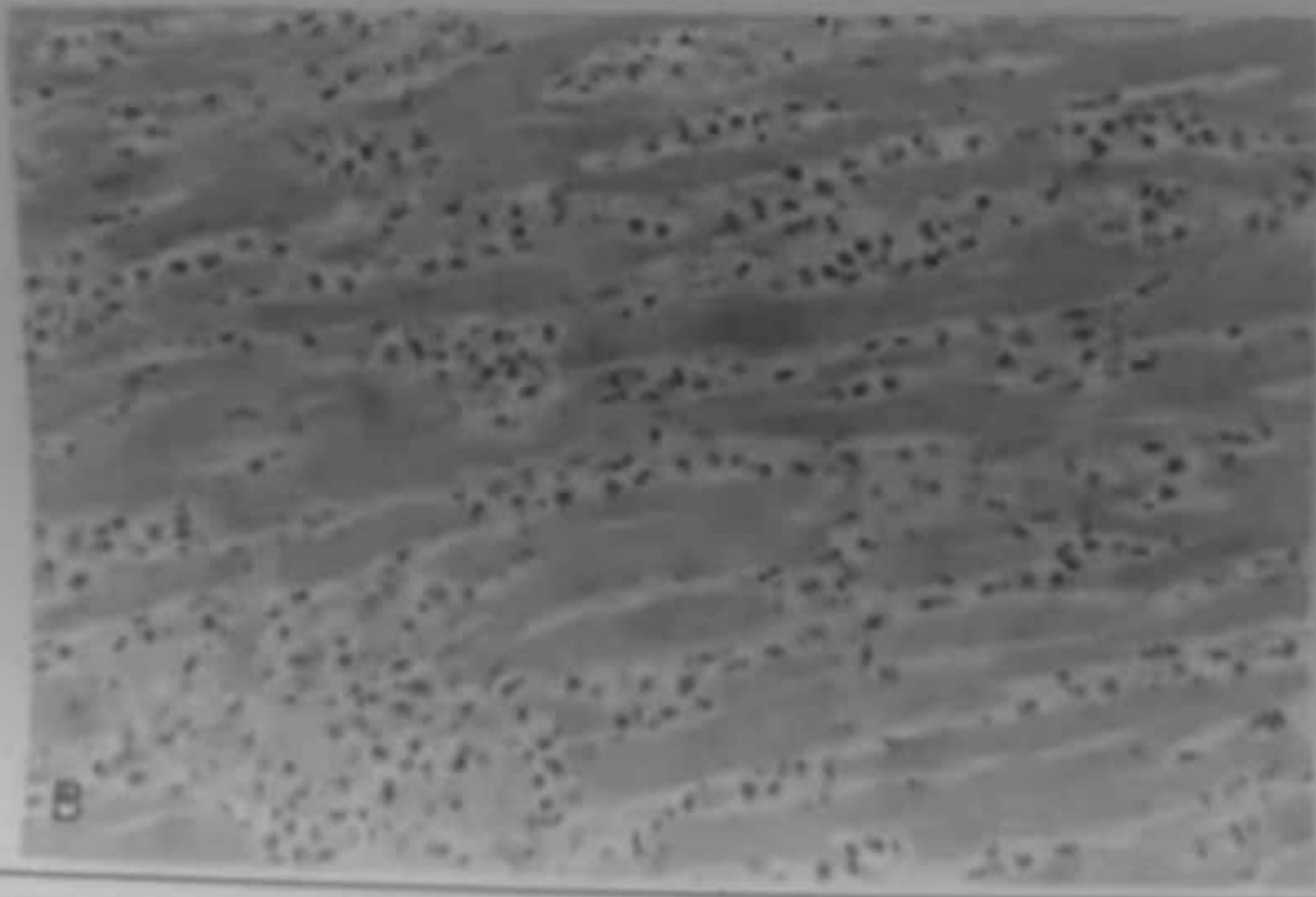


after MI 1- 3 days changes after MI cardiac enzymes

x +

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A 60 years old male died of a massive heart attack. The autopsy findings revealed the following picture.



rhumatic heart disease

types of vagitations

morphology; aschoff bodies

× +

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Pathology Outlines

K! Kahoot! - My Kaho...

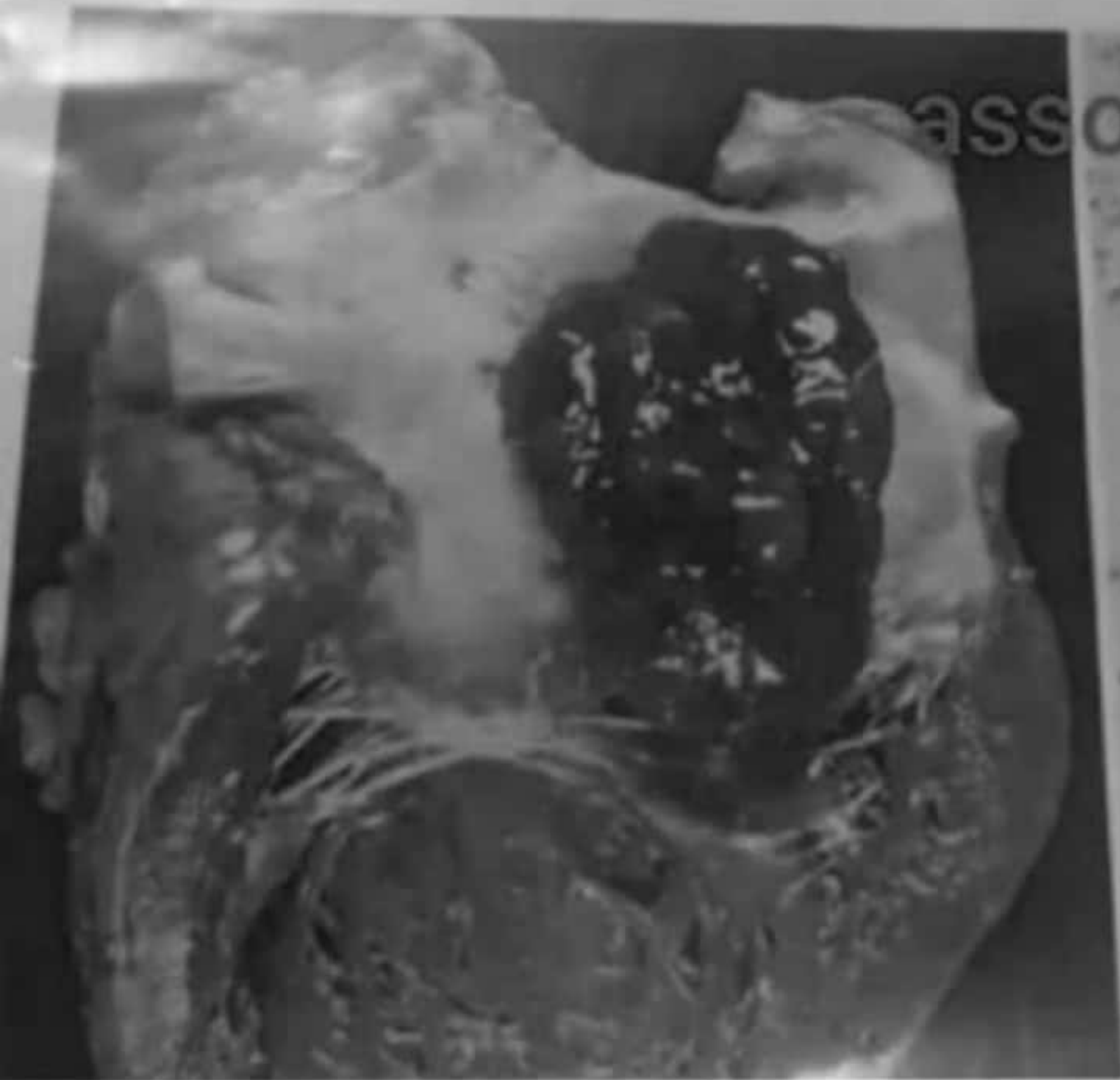
A 17 years old boy had upper respiratory tract infection. Later he developed painful swollen elbow joints for a week. The swelling subsided after one week and then wrist joints and knee joints became painful and swollen. Meanwhile he developed fever and nodules on the skin. Examination revealed vegetations on his heart valve as shown below



A 30 year old man presented in emergency department with history of fever, malaise and skin lesions. Echocardiography revealed a mass in heart. Below is the gross and microscopic picture of the lesion. Carefully examine the picture and answer the following question.

atrial myxoma
location

associated syndrom



Hydatic C.
Endometrial Polyp

102





econococcus granulosis
treat by metronedazoleres
liver cause by eccaino an
inscions drainage

Leiomyoma

8

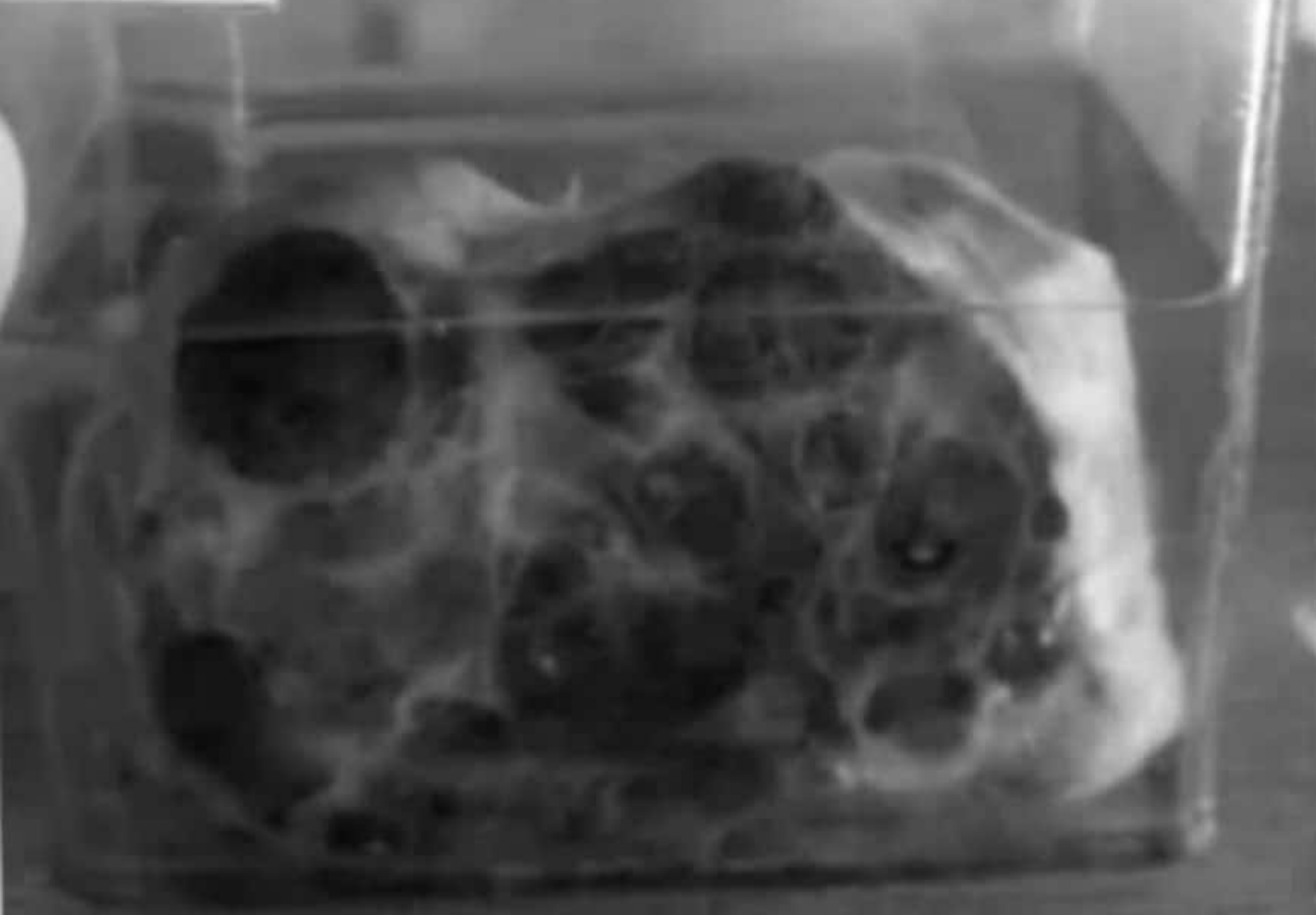
by myomectomy leiomyoma is
excise from utrus



Multinodular Goiter

ANMC 

60



75

Acute Appendicitis

101

ANMC

contain stones

worms

fecal material

most common tumor of appendix

is carcinoid tumor present in 1%

appendix is best organism

entrobiosis vermicularism

Chronic Pyelonephritis

ANMC

49

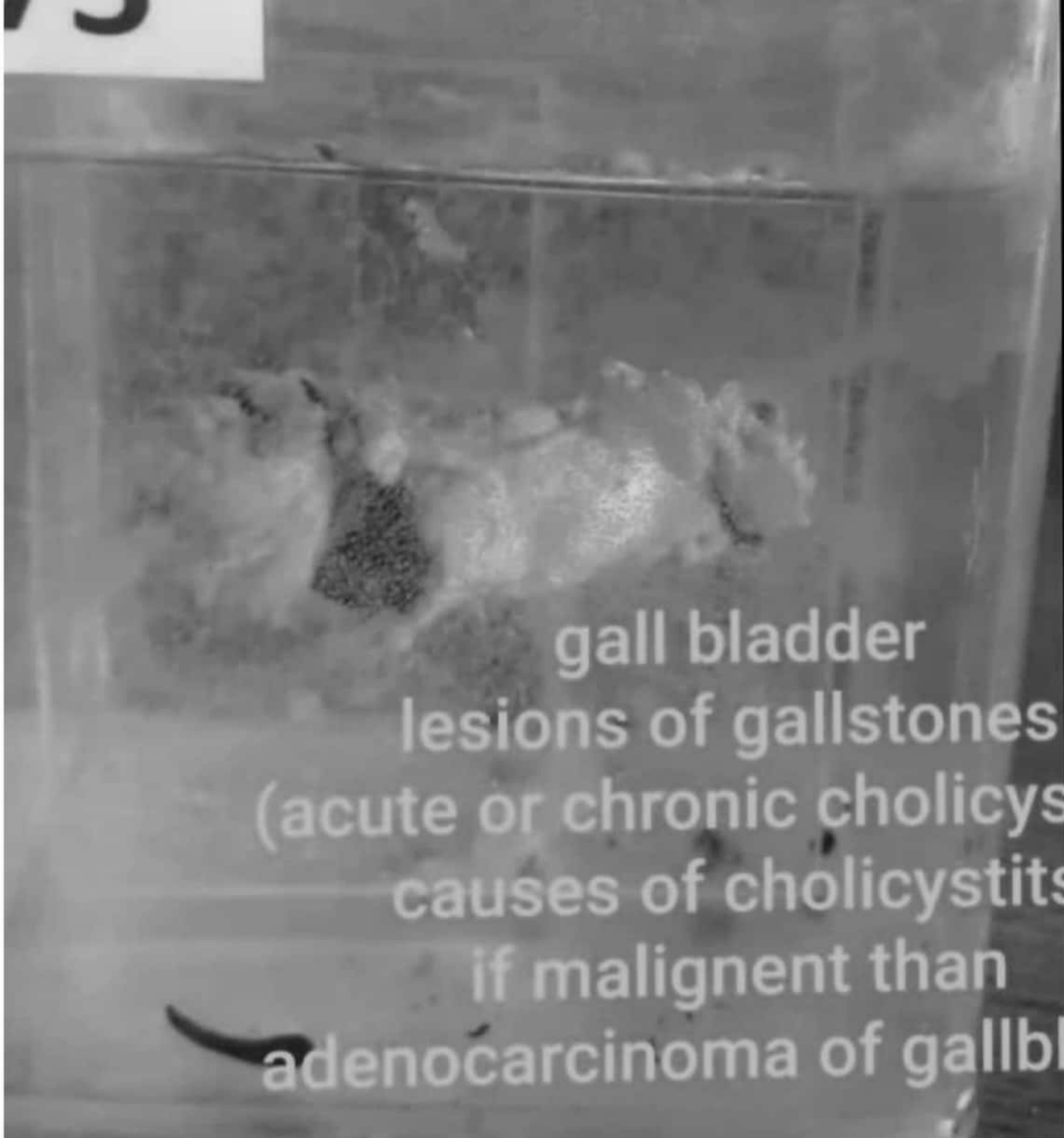
26



structure: outer cortex is
medulla and hilum
causes of
pyelonephritis: hydronephrosis
and kidney stones

3 of 10





gall bladder
lesions of gallstones
(acute or chronic cholecystitis)
causes of cholecystitis
if malignant than
adenocarcinoma of gallbladder

Serous (Cyst Ovary

26

cyst of ovary
types (serous and mucin
sites are ovary . liver. th

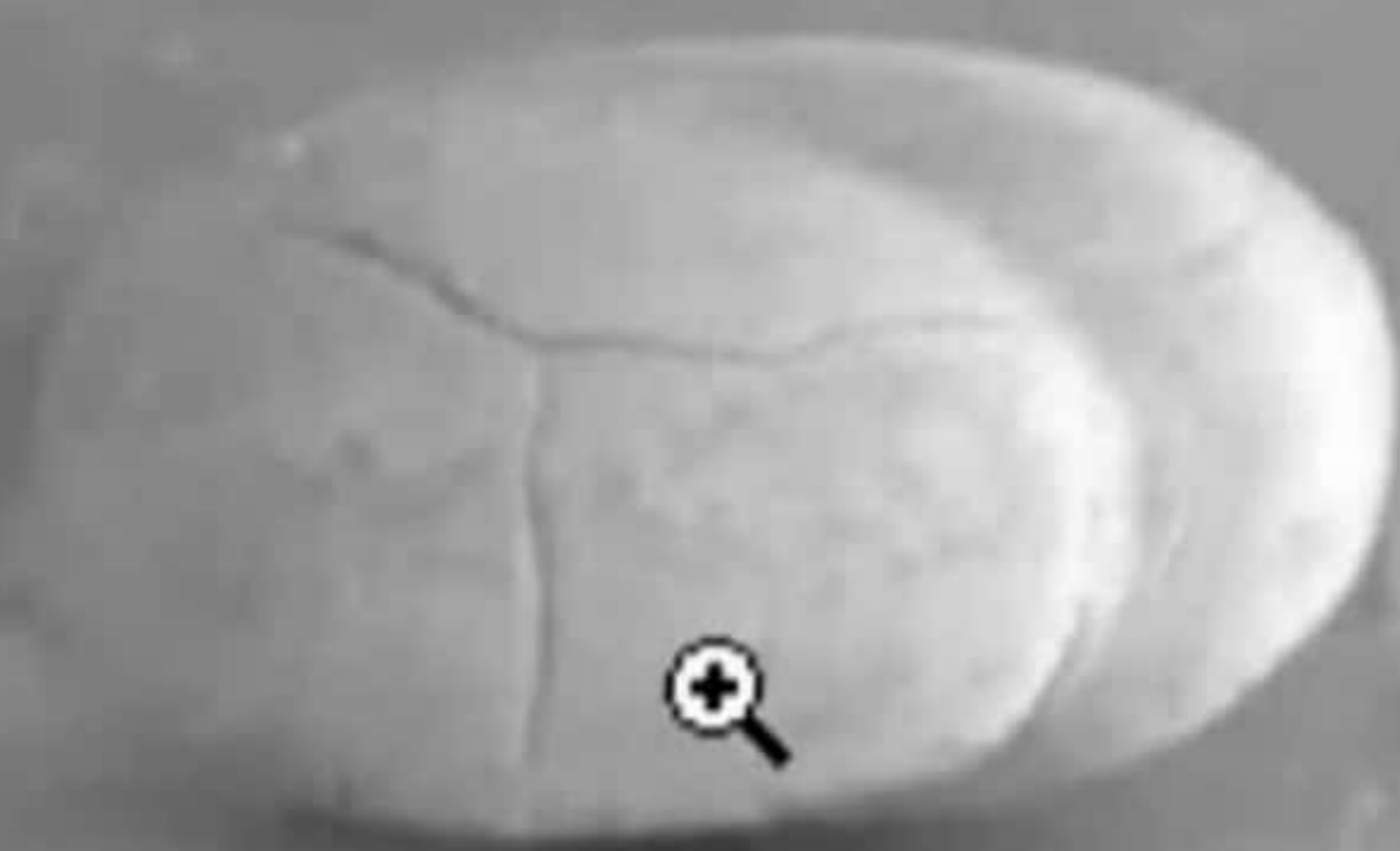
Urinary Bladder

Stone

ANMC

92

different types of kidney stones
sites are kidney
urinary bladder





endometrial polyp
present in cervix

Leiomyoma

7





2 of 7



leiomyoma of uterus (benign smooth muscle tumor) if malignant than called leiomyosarcoma
tumors of layers of uterus
endometrial tumor
myometrial tumors

Multinodular Goiter

ANMC

59

multinodular goiter of thyroid gland

hormone TSH

small cyst present

keloids present in it

endocrine gland