FGT & MGT pathology
PBL LAB. 3

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- PBL 1
- A 36-year-old woman presents with vaginal bleeding at 8 weeks 3 days' gestation. She has never been pregnant before. Bright red 'spotting' commenced 7 days ago, which she thought was normal in early pregnancy.
- **Examination**
- The abdomen is soft and nontender. Speculum reveals a normal closed cervix with a small amount of fresh blood with vesicles coming from the cervical canal. Bimanually the uterus feels bulky and soft, approximately 10 weeks in size. There is no cervical excitation or adnexal tenderness.

INVESTIGATIONS

Urinary pregnancy test: positive

- The ultrasound scan shows:-
- show snowstorm appearance (uterine cavity filled with multiple sonolucent area of varying size and shape).

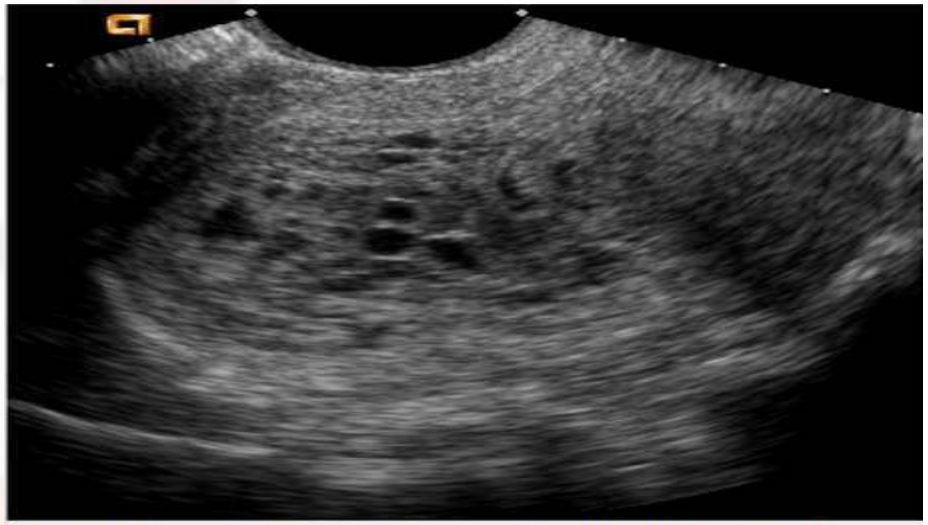


Figure 37.6 Ultrasonogram of a uterus showing a typical pattern of a complete hydatidiform mole. Note the characteristic vesicular ultrasonographic pattern.

This woman underwant curretage revealed a multiple vesicles as bunch of grapes as in picture

- Q1 --- What are the likely differential diagnosis ?
- Q2 --- what is the cytogenetic mechanism caused this type of pregnancies ?
- Q3 --- what are the risk factors for this type of gestation ??
- Q4 --- what are the risk of developing malignany according to its type?

Q1 --- Answer – GTD most likely non invasive one :-

- **Complete hydatidiform mole**
- **Partial hydatidiform mole.**

Q2 – Answer

COMPLETE H. MOLE

arise from an ovum that has been fertilized by a haploid sperm, which then duplicates its own chromosomes.

Ovum nucleus may be either absent or inactivated.

- **Karyotype: 46XX (90% cases); 46XY(10%)**
- **Molar chromosomes- entirely paternal in origin, although mitochondrial DNA is maternal.**

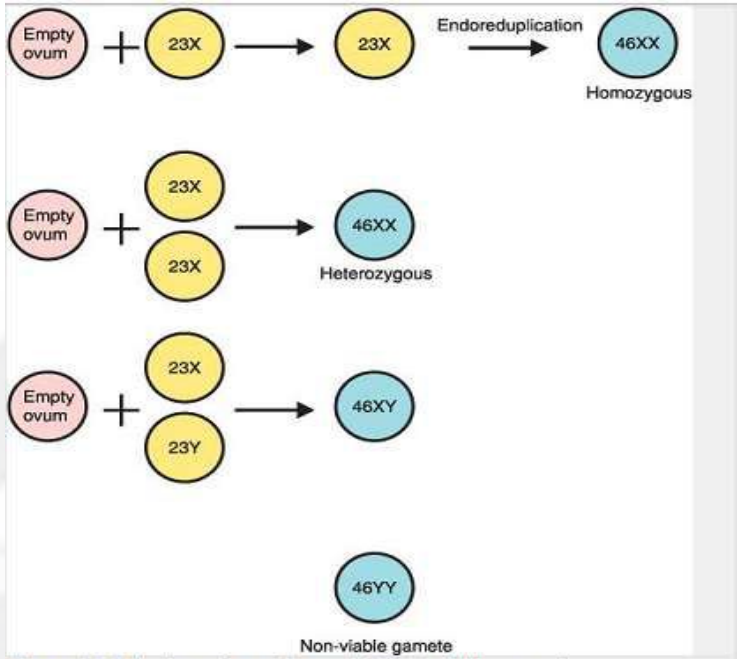


Figure 37.2 The karyotype of complete hydatidiform mole.

Partial mole

Are genetically biparental ,Usually with a triploid karyotype and arise due to two sperm fertilize an ovum or reduplication of paternal sperm haploid set and having 2 set of chromosome from paternal origin and one from maternal origin 69XXX, 69XXY, 69XYY.

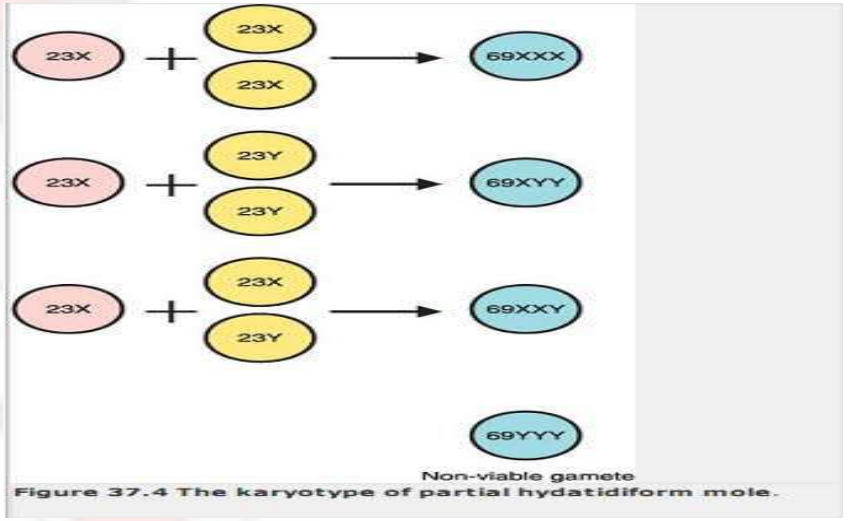


Figure 37.4 The karyotype of partial hydatidiform mole.

Q3 – Answer --

Risk factors:-

1. maternal age (≤15 and ≥40 years old).
2. previous history of molar pregnancies (0.5-2% risk of recurrence)
3. ethnic variation and increased rates in Asian women.
4. familial syndrome of recurrent complete hydatidiform mole (inherited in autosomal recessive pattern) but it is extremely rare

Q4 --- Answer –
16% of complete hydatidiform mole and 0.5% of partial hydatidiform mole undergo malignant transformation

PBL 2

A 30-year-old man complains of “heaviness” in the scrotal area, which he has noted for approximately 1 month. On his medical history He denies any trauma to the area , He denies the use of tobacco, He mention that he had undescended tests (abdominaly located) that treated surgically (orchiopexy) to bring the testicle into the scrotum, since he was 17 years old.

On examination, there is a 5-cm firm, nontender area inside the right scrotum. There is no lymphadenopathy.

Q1- **What is the most likely diagnosis?**

Q2- **What is the most likely histologic finding?**

Q3- **What is the most important risk factor mention in patients history ?**

Q1 –Answer--

- TESTICULAR NEOPLASMS

Testicular neoplasms are the most important cause of firm, painless enlargement of the testis.

The peak age incidence is between the ages of 20 and 34 years.

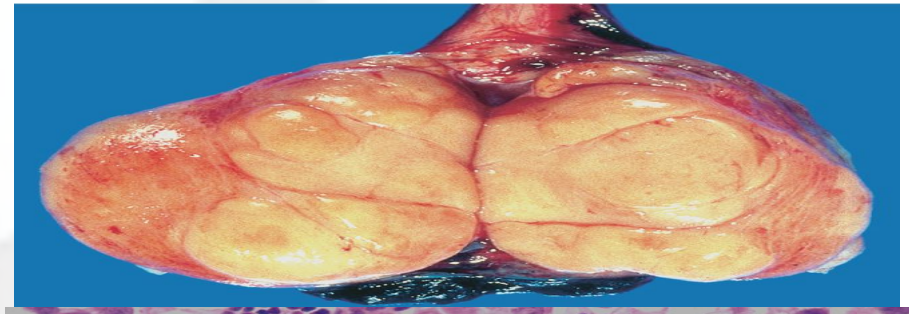
Q2 –Answer -- **Germ cell tumors (malignant)**

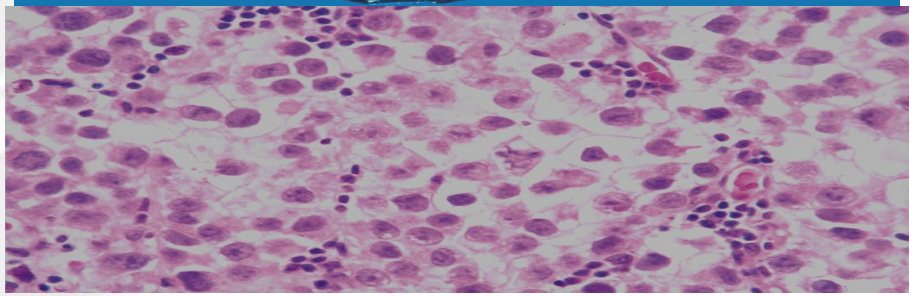
Q3 – Answer-- :- **Undescended tests**

Continue.....

- Orchidactomy is done and revealed

The tumor appears as a fairly well circumscribed, pale, fleshy, homogeneous mass,with Large cells with distinct cell borders, clear cytoplasm, rounded nuclei, prominent nucleoli, and a sparse lymphocytic infiltrate. As in pictures





Q1- What is the most likely diagnosis?

Q2- What is the most likely histologic finding?

Q3- What is the most common rout of spread?

Q4- What is the tumor marker used to follow this type of tumor ?

Q5 - What is the definition of stage II of this cancer ??

- Q1 – Answer--:- Seminoma
- Q2 – Answer--:- Sheets of uniform polygonal cells with cleared cytoplasm; lymphocytes in the stroma
- Q3 – Answer--:- *1. Lymphatic spread* occurs to retroperitoneal para-aortic lymph nodes, mediastinal lymph nodes and supraclavicular lymph nodes.
- *2. Haematogenous spread* primarily occurs to the lungs, liver, brain and bones.
- Q4 – Answer--:-**10% have elevated hCG**
- Q5 –Answer-- :-

Stage I: tumor confined to the testis.

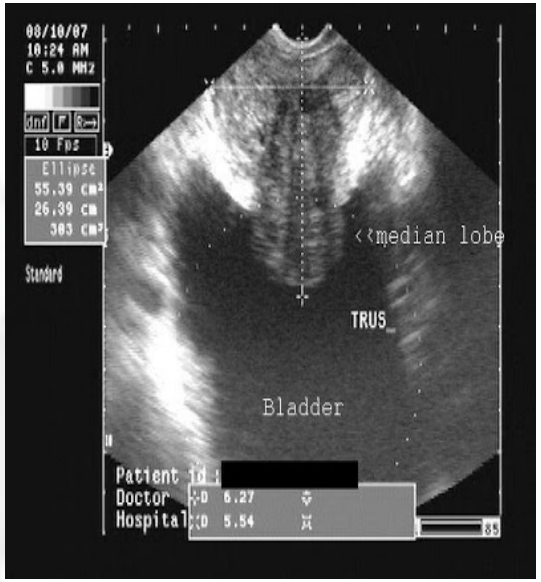
Stage II: distant spread confined to retroperitoneal lymph nodes below the diaphragm.

Stage III: distant metastases beyond the retroperitoneal lymph nodes

PBL 3

A 62-year-old man presents with a 4-year progressive history of Increasing lower urinary tract symptoms ; after exclusion of urinary tract infection , An enlarged prostate gland on rectal examination is adentified , **that is symmetric and smooth**.

Ultrasound also confirmed this finding , as in picture:-



Q1- What is the most likely diagnosis?

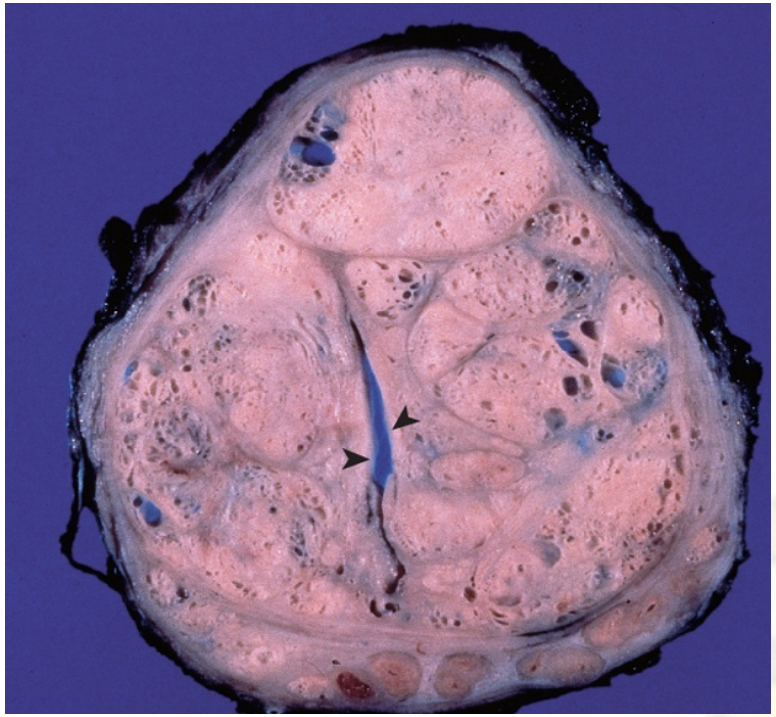
Q2- What are the most important risk factors for developing this disease ??

Q1 – Ans-- :- Benign Prostatic Hyperplasia.

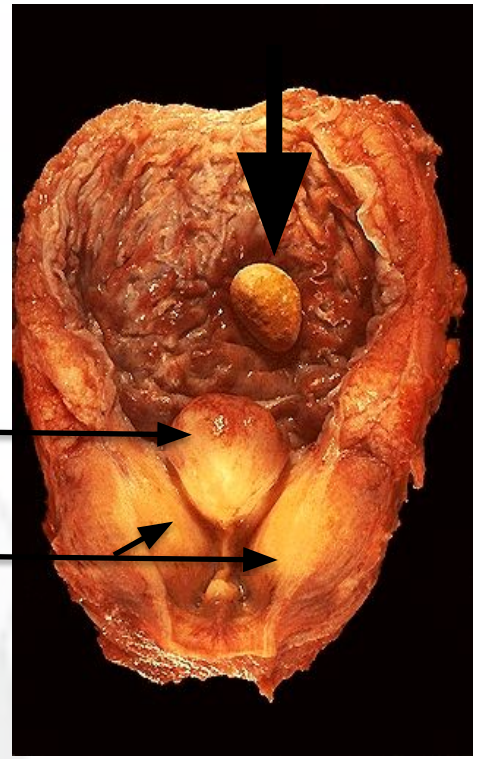
Q2 –Ans--:-Androgens have a central role in the pathogenesis of BPH.

DHT (dihydrotestosteron) , the active form of testosterone , is derived from testosterone by the action of 5α-reductase & stimulate stromal and glandular proliferation. DHT binds to nuclear androgen receptors and stimulates synthesis of DNA, RNA, growth factors, leading to hyperplasia.

This is the base for the current use of 5α-reductase inhibitors in the its treatment.

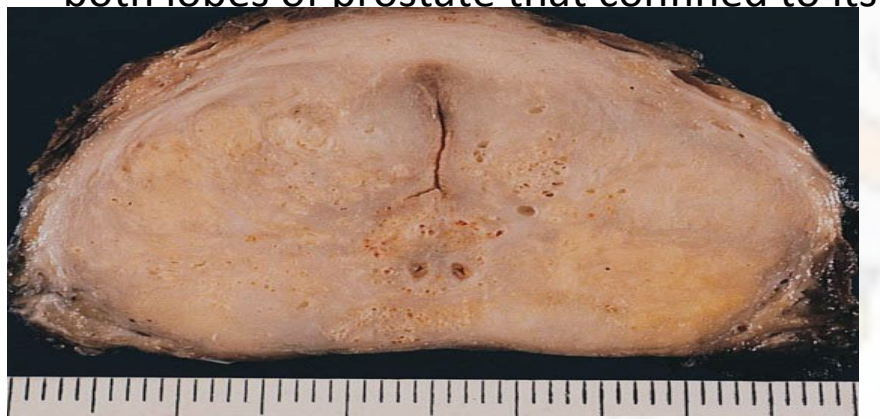


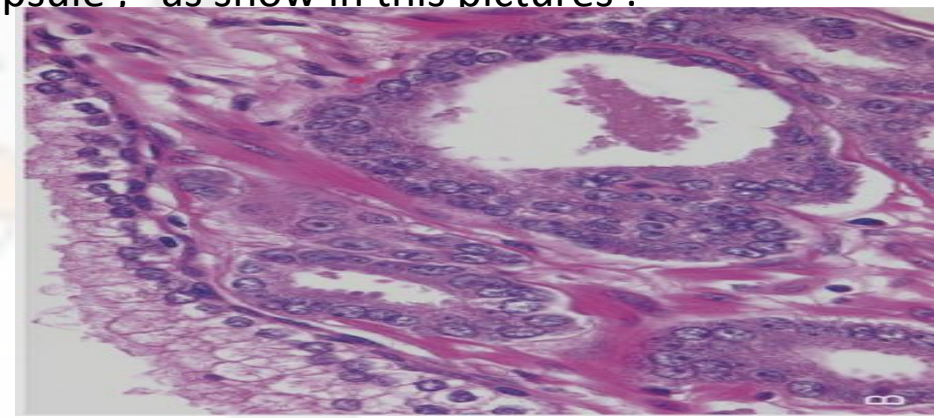
There are well-defined nodules that compress the urethra (arrowheads) into a slitlike lumen.



Enlarged lateral lobes and median lobe that obstructs the prostatic urethra. This led to obstruction with bladder hypertrophy, as evidenced by the prominent trabeculation of the mucosal surface. Obstruction with stasis also led to the formation of the yellow-brown stone (arrow).

- The patient refuse surgical treatment , 3 years later he presnted with Anuria (non passage of urine, & in practice is defined as passage of less than 100 milliliters of urine per day) and haematuria (is the presence of red blood cells in the urine).
- An enlarged prostate gland on rectal examination is feels **asymmetrical, firm, or nodular.**
- Prostactomy is done & specimen send for histopathology , revealed a large nodules in both lobes of prostate that confined to its capsule , as show in this pictures :-





Q1- What is the most likely diagnosis?

Q2- What is the most common tumor markers used to follow this type of tumor ?

Q3- what are the most common rout of metastasis ?

Q4 - What is the stage & prognosis of this tumor?

Q1 –Answer-- :- **Prostate cancer is the most common cancer in men**

Q2 –Answer--:- The **oncoprotein BCL-2** is associated with the development of androgen-independent prostate cancer, due to its high levels of expression in androgen-independent tumours in advanced stages of the pathology.

The expression of **Ki-67** by immunohistochemistry may be a significant predictor of patient outcome for men with prostate cancer.

Q3 –Answer--:-

- Metastases:
  - **Regional lymph nodes**
  - **Axial skeleton (causing miserable bone pain often with osteoblastic lesions)**
  - **Leptomeninges (not the brain tissue).**

Q4 –Answer-- :- **STAGE II**

The prognosis for patients with limited-stage disease is favorable: more than 90% of patients with stage T1 or T2 lesions (localized to the prostate) survive 10 years or longer.
The outlook for patients with disseminated disease remains poor, with 10-year survival rates in this group ranging from 10% to 40%.


THANK YOU
FOR YOUR
ATTENTION