Trophoblastic Diseases

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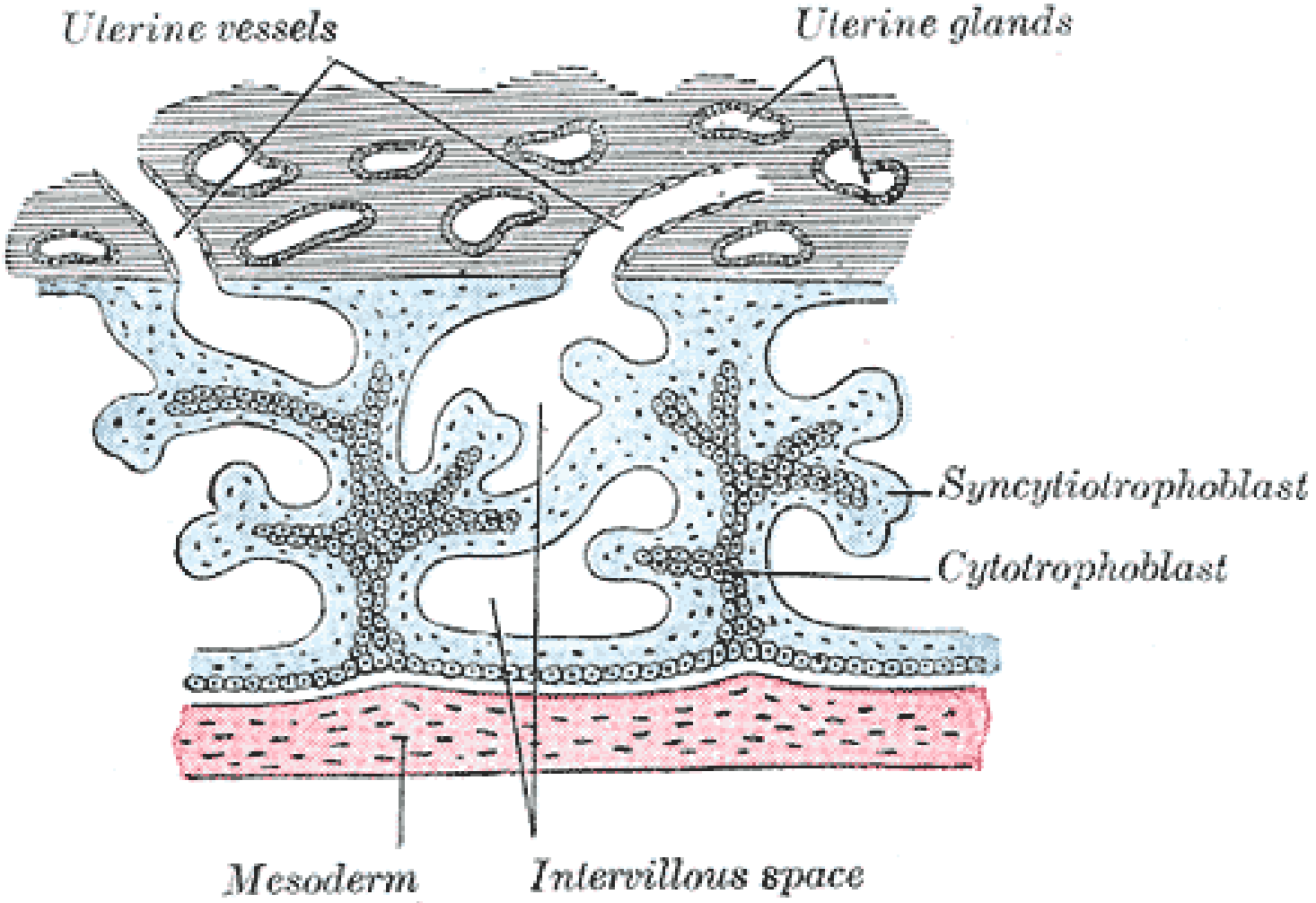
Microanatomy Review



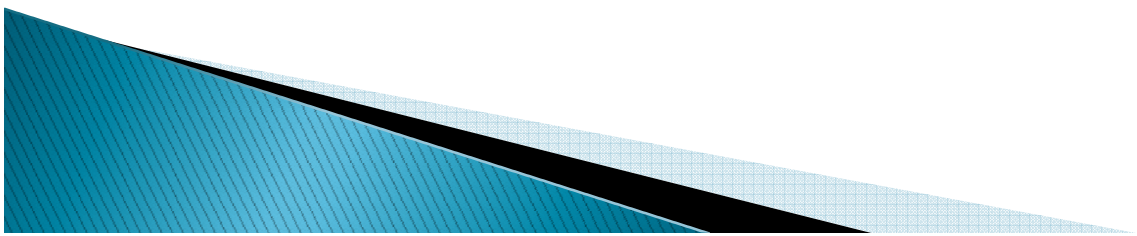
Ref: Wikipedia

Pathology

Abnormal formation of placenta and includes disorders characterised by degenerative or neoplastic changes of trophoblastic tissue.

Two common clinical entity are:

- Hydatidiform mole
- Choriocarcinoma



Hydatidiform mole

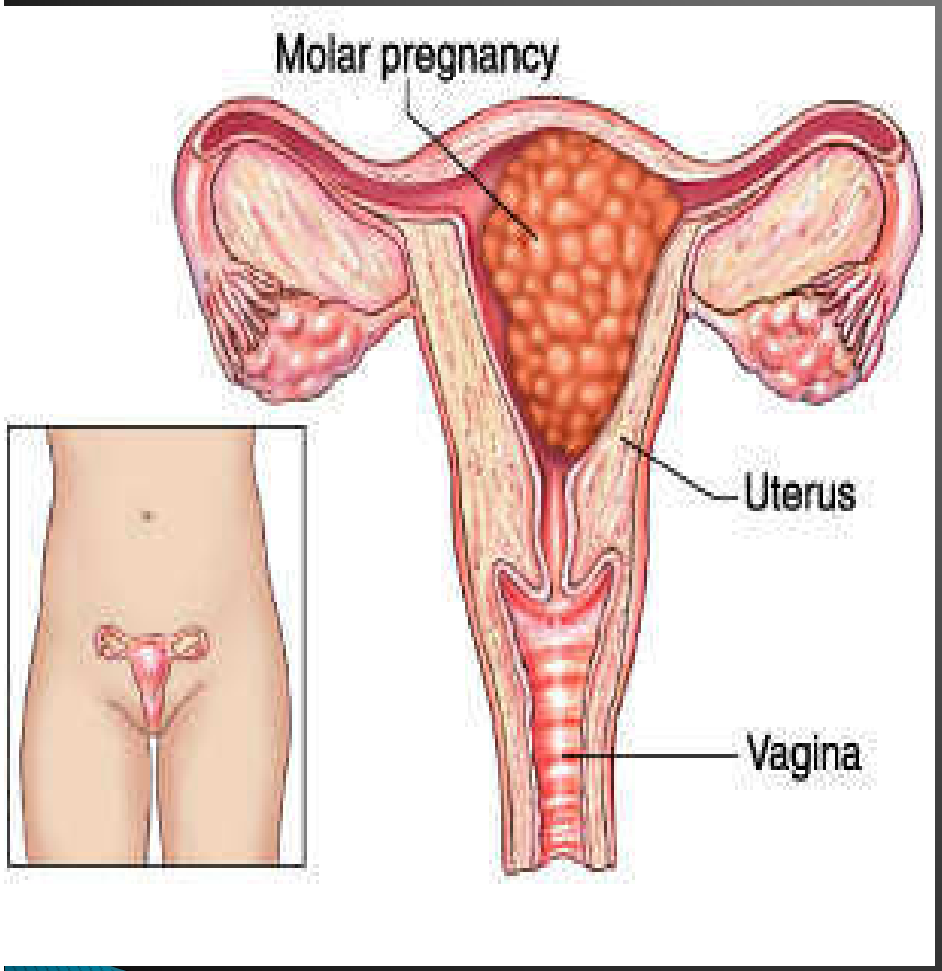
Characterised by:

Marked swelling of the chorionic villi in a loose stroma resembling bunch of grapes.

There is variable degree of trophoblastic cell hyperplasia.

- All villi involved – complete mole
- Some villi involved – partial mole

Hydatidiform Mole



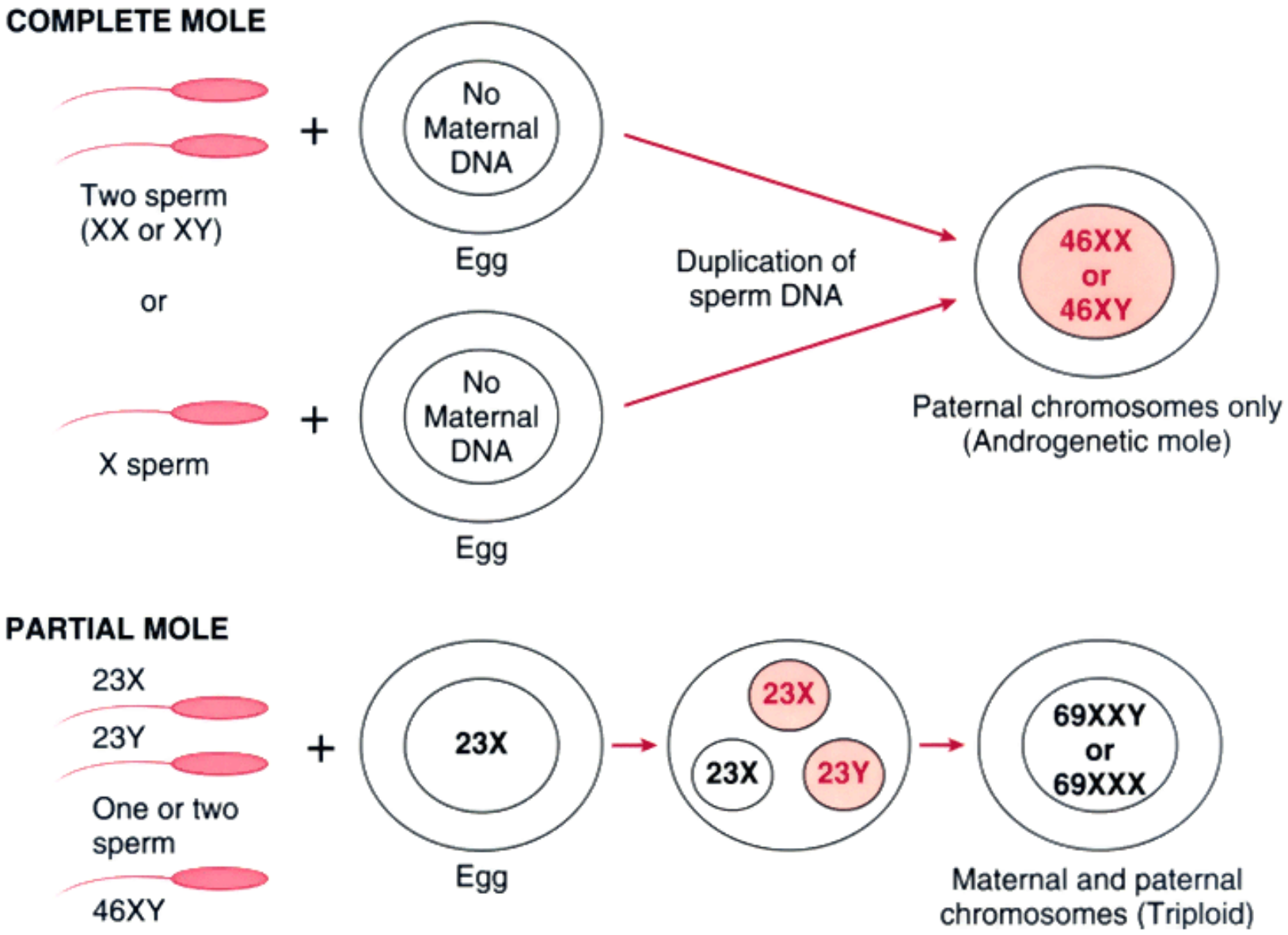
Ref: Google Images

Hydatidiform Mole

Pathogenesis: Result of abnormal fertilization.

- Complete mole: No embryo is present. Have 46, XX karyotype and results from **androgenesis**. A process in which fertilized ovum loses the maternal chromosomes but retains paternal chromosomes.

- Incomplete mole: embryo is present. Ovum fertilized by 2 or more spermatozoa have a triploid karyotype (69, XXY or 69, XYY) and contain 1 female haploid set and 2 male haploid sets of chromosomes.



Ref: Robins Pathological Basis of Diseases, 7th Ed

TABLE 22-5 -- Features of Complete Versus Partial Hydatidiform Mole

Feature	Complete Mole	Partial Mole
Karyotype	46,XX (46,XY)	Triploid
Villous edema	All villi	Some villi
Trophoblast proliferation	Diffuse; circumferential	Focal; slight
Atypia	Often present	Absent
Serum hCG	Elevated	Less elevated
HCG in tissue	++++	+
Behavior	2% choriocarcinoma	Rare choriocarcinoma

HCG, human chorionic gonadotropin.

Ref: Robins Pathological Basis of Diseases, 7th Ed.

Hydatidiform Mole

Clinical Presentation:

- Vaginal bleeding
- Excessive vomiting
- Rapid increase in uterine size & out of proportion to for the supposed gestational age
- No fetal movements is felt.

2-3% of complete moles tend to become invasive and recur after evacuation possibly giving rise to choriocarcinoma

Choriocarcinoma

Pathogenesis: complication of hydatidiform mole in 50% of cases. In 20-25% follows abortion and 20-30% occurs after normal pregnancy.

Study guide: What are the common clinical presentation symptoms?

Characterised by:

Malignant neoplasm composed of trophoblastic cells (epithelial malignant neoplasm). **Mononuclear cytotrophoblastic** cells & **multinuclear syncytiotrophoblastic** cells. Cells derived from normal or abnormal pregnancies.

Laboratory Diagnosis

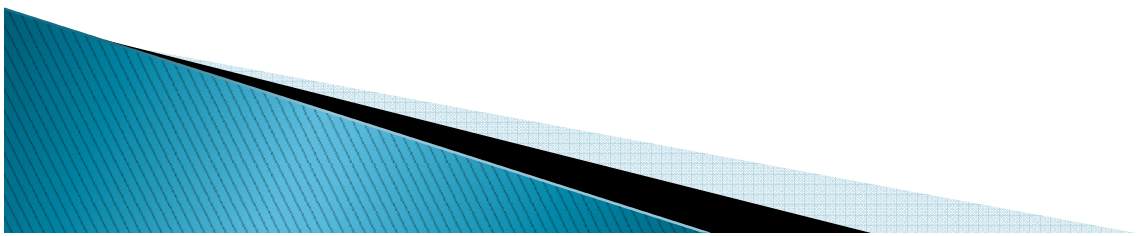
- Baseline hCG will be markedly increased (Quantitative test).
- hCG also used for monitoring after curettage
- Rapid pregnancy test kit will be positive (qualitative test)
- Histology of curettage scrapings or uterus will confirm diagnosis & karyotyping.

Prognosis

- Hydatidiform Mole:
  - 80-90% remain benign and no progress in disease.
  - 10% develop into invasive mole.
  - 2.5% into choriocarcinoma.
- Choriocarcinoma:
  - 100% cure with surgery and chemotherapy.
  - Can have normal pregnancy.
  - *Non-gestational choriocarcinoma resistant to therapy.*

Study Guide

- What are the common sites of metastasis of choriocarcinoma? List the sites in order of frequency.
- What are the common complications of choriocarcinoma and molar pregnancy?
- Describe the anatomical and clinical staging of choriocarcinoma.
- What non-invasive diagnostic methods are used to diagnose molar pregnancy & choriocarcinoma? Describe the diagnostic features in each of the tests.
- 7% of patients with hydatidiform will have signs and symptoms of hyperthyroidism. What is the link between hydatidiform mole & hyperthyroidism?



- Ann Intern Med. 1975 Sep;83(3):307-11.
- **The thyrotoxicosis of hydatidiform mole.**
- Higgins HP, Hershman JM, Kenimer JG, Patillo RA, Bayley TA, Walfish P.
- **Abstract**
- In 14 women with hydatidiform mole, 9 were hyperthyroid. Serum thyroxine (T4) levels varied between 18 and 34 mug/100 ml, and serum triiodothyronine (T3) levels between 300 and 800 ng/100 ml in the hyperthyroid patients. Bioassayable thyroid-stimulating hormone (molar TSH) was found in high concentrations in the serum of 13 patients in whom preoperative serum was available. There was a close correlation between the serum levels of human chorionic gonadotrophin, molar TSH, and T3. Intravenous sodium iodide caused a fall in serum T3 and, to a lesser extent, in T4 in hyperthyroid patients but not in a euthyroid patient. Removal of molar tissue caused a dramatic fall in the serum levels of T3, T4, molar TSH, and human chorionic gonadotrophin. The close correlation between the serum concentrations of molar TSH and human chorionic gonadotrophin lend support to the suggestion that the human chorionic gonadotrophin molecule itself, when present in large amounts, stimulates thyroid function significantly

End

- Robins Pathological Basis of Diseases – what ever edition you have.
- PDF format of presentation & study guides will be available on:

www.pathologyatsmhs.wordpress.com