IN SUMMARY
TROPHOBLASTIC DISEASE

TROPHOBLASTIC NEOPLASIA

Types of trophoblast neoplasia

- Molar (always gestational)
  - villi
- Non-molar (can be non-gestational)
  - No villi
- Molar gestations
  - Errors in fertilization or meiosis
  - Abnormal paternal contribution to the zygote
- Two categories:
  - Complete hydatidiform mole
  - Partial hydatidiform mole

Partial Hydatidiform Mole

- Excess tissue:
  - Occasionally large villi are grossly identifiable but should be < 1cm in greatest dimension
- Fetal development is possible with characteristic anomalies:
  - IUGR
  - 3-4 syndactyly - hands
  - 2-3 syndactyly - feet
  - Renal, cardiac, neural structural anomalies
- Histology:
  - Two populations villi - large + cisterns, small
  - Irregular outlines of villi
  - Villous syncytiotrophoblastic inclusions
  - Excess and atypical villous synctyiotrophoblast
  - “molar” implantation site
  - Embryonic/fetal development

- Characterized by focal villous hydrops
- Focal trophoblastic hyperppasia
- Two populations of villi
  - large and hydropic
  - background of small, sclerotic and normal-sized villi
  - scalloped villous outlines
  - tangential sectioning of the villi results in stromal trophoblastic inclusions
  - villous surfaces may have many tiny projections of syncytiotrophoblast forming notches
- Focal trophoblast hyperplasia
- Mounds of syncytiotrophoblast
- Nuclear atypia infrequent
- Villi vessels contain nucleated RBS and often fetal tissue found
- Triploid
- Extra haploid DNA is paternal

Complete hydatidiform mole

- Villi grossly identifiable, often >1cm in greatest dimension
- No fetal development
- Excess tissue
- Villous hydrops
- Trophoblast hyperplasia
- Cistern formation
- Blood vessels lacking
- Mounds of mitotic cytotrophoblast
- Lacy proliferation of syncitiotrophoblast
- Extravillous trophoblast
- Cytologic atypia
- Diploid
- Nuclear DNA **androgenically** derived

Molar gestations

- Complete moles - choriocarcinoma, recurrence
- Partial moles - rarely persist

Imprinting

- Molar gestations are evidence of difference between maternal and patnernal DNA
- Molar pregnancies are due to a overabundance of paternal DNA
- Paternal DNA preferentially makes extraembryonic
- Maternal DNA preferentially makes embryonic tissues

Choriocarcinoma

- Malignancy of all trophoplast lineages
- Gestational or non-gestational
- Presents with bleeding, toxemia
- Widely metastatic
- Gestational is chemosensitive
- Followed with bHCG and imaging
- Histology of choriocarcinoma
- Biphasic trophoblast
- Hemorrhage and necrosis

Choriocarcinoma in situ

- Can present as mass-like lesions in the placenta
- Can cross the placenta to metastasize to fetus
- Silent at placental presentation or widely metastatic

Placental site trophoblastic tumor

- Neoplasm of intermediate trophoblast
- Locally invasive, rare metastases
- Mild symptoms of persistent pregnancy
- No good serum markers
- Therapy is hysterectomy

Histology of PSTT

- Mono or binucleate trophoblast
- Pushing border
- Massachusetts

FUNDAMENTAL QUESTIONS

1. Define gestational trophoblastic disease.
2. Describe the histology of a complete mole. A partial mole.
3. What is the karyotypes of a complete mole ? A partial mole?
4. What is the malignant potential of the partial mole? The complete mole?
5. How does one follow a patient who has had a molar pregnancy?
6. What is the treatment for persistent trophoblastic disease?