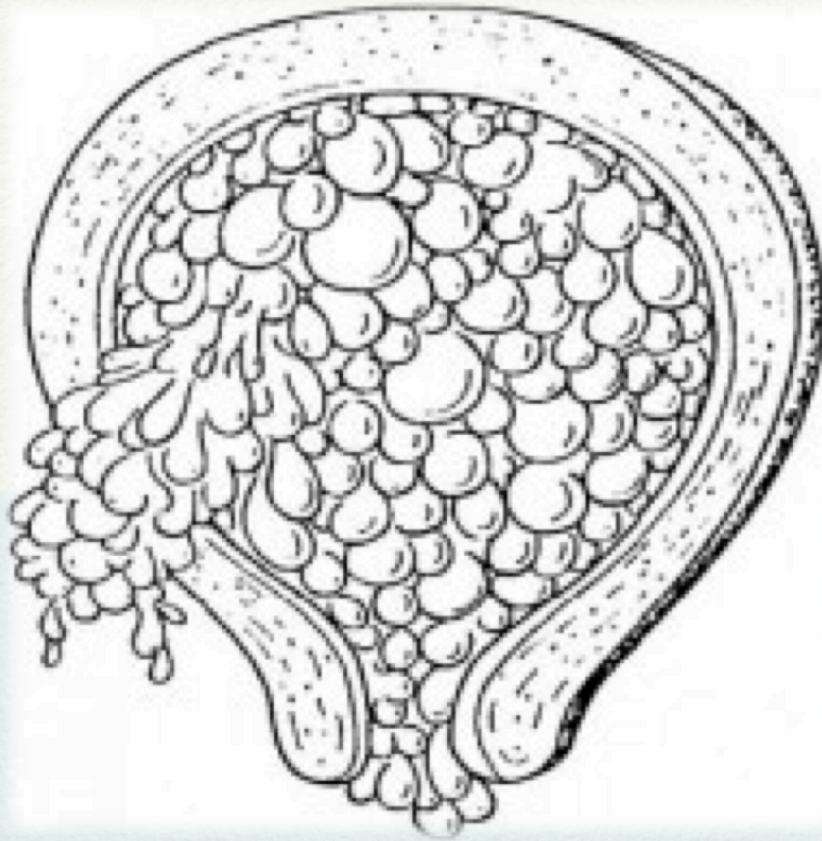

HYDATIFORM MOLE

(Molar Pregnancy)

Done by: Nouf AlThabit



HYDATIDIFORM MOLE

GESTATIONAL TROPHOBLASTIC DISEASE (GTD)

(GESTATIONAL TROPHOBLASTIC NEOPLASIA)

- **Hydatidiform mole (Molar pregnancy)** → Benign
 1. Complete hydatidiform mole
 2. Incomplete hydatidiform mole
- **Choriocarcinoma** → Malignant
- **Placental-site trophoblastic tumor** → Malignant
- **Invasive mole** → Malignant

Gestational trophoblastic disease (GTD) is the term for uterine tumors that develop from the trophoblast.

Choriocarcinoma is a malignant, trophoblastic cancer, usually of the placenta.

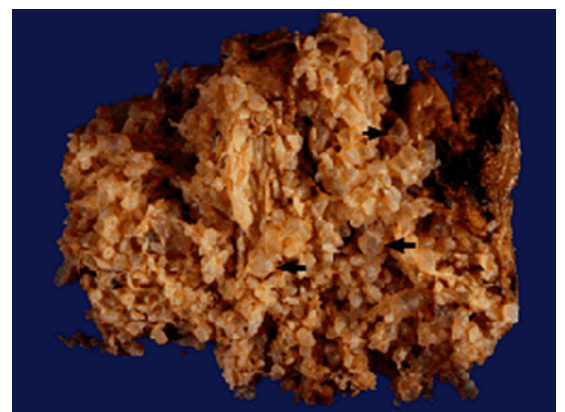
MOLAR PREGNANCY (الحمل العنقودي أو الحويصلي)

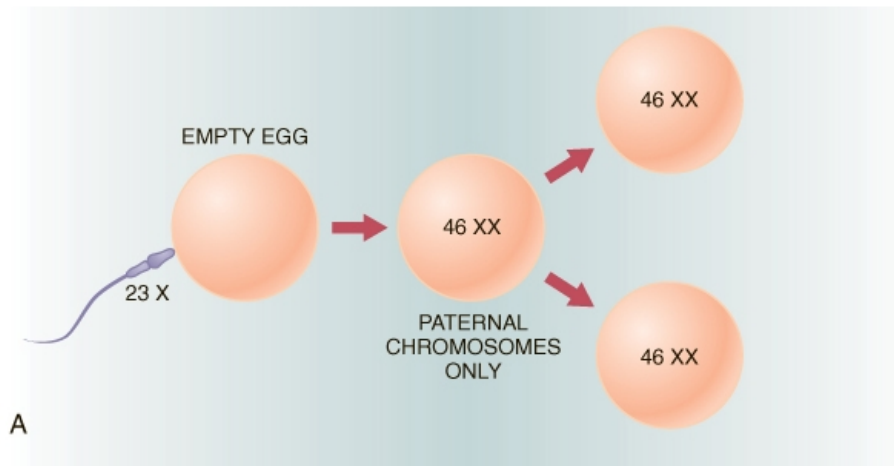
Is an **abnormal** form of **pregnancy** where a **non-viable, fertilized egg** implants in the uterus, and thereby converts the normal pregnancy processes into pathological one.

Grossly it appears as **multiple vesicles** that have been classically described as a "**bunch of grapes**".

A. Complete mole (most common)

- Fertilization of an **empty egg (NO chromosomes)** by **one sperm (23X)**.
- **Microscopically:** All placental villi swollen (hydropic), no fetal blood vessels and hyperplasia of trophoblastic tissue.
- **Fetus**, cord and amniotic membrane are **absent**.
- **Paternal** chromosomes **only** (reduplication of 23X → complete 46XX).
- **Diploidy 46 XX** or 46 XY.
- **Most common** karyotype is 46XX
- **20%** → become malignant (GTT gestational trophoblastic tumor)

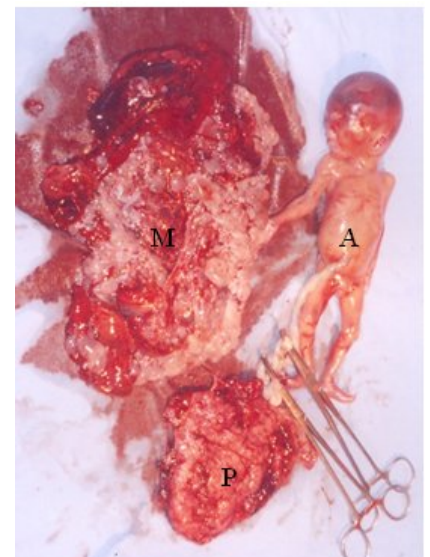




Sometimes in Complete mole **2 sperms** fertilize an **empty egg** which results in **46XX** or **46XY** with no need of duplication ($23X + 23X + \text{empty egg} = 46XX$). **46 YY** has never been observed.

B. Incomplete mole

- Fertilization of an egg (**23X**) by two sperms (23X, 23Y **OR** 23X, 23X **OR** 23Y, 23Y)
- Microscopically: some placental villi swollen (the remaining villi are normal), fetal blood vessels are found and less trophoblastic hyperplasia compared with complete mole.
- **Fetus**, cord and amniotic membrane are **present**, but the fetus usually don't survive and it is generally present as spontaneous or missed abortion. (See picture)
- **Paternal and maternal** chromosomes (egg 23X + 2 sperms)
- Triploid 69XXY or 69XXX or 69XYY
- Most common karyotype is 69XXY (80%), (20%) 69XXX & 69 XYY.
- 5% → become malignant (GTT gestational trophoblastic tumor)



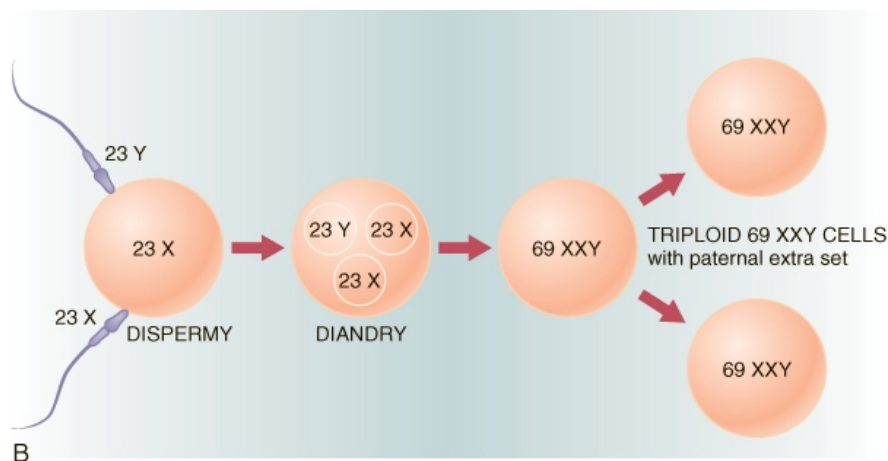
Incidence and epidemiology

- In USA 1:1000
- In Asia 8:1000

Sometimes in Incomplete mole **1 abnormal sperm with unreduced paternal genome 46XY** fertilize an **egg 23X** which results in **46XXY** only ($46XY + 23X = 69XXY$).

RISK FACTORS FOR MOLAR PREGNANCY

- Maternal extreme of age (<20y and >40y)
- Low socioeconomic status
- Race and ethnic origin (Asian women more specifically south east Asian)
- Blacks have lower incidence
- Diet: low β -carotene (vitamin A def.) , low folic acid (folate def.)
- Previous molar pregnancy
- Family history (familial syndrome)



SYMPTOMS AND SIGNS OF MOLAR PREGNANCY

A. Symptoms:

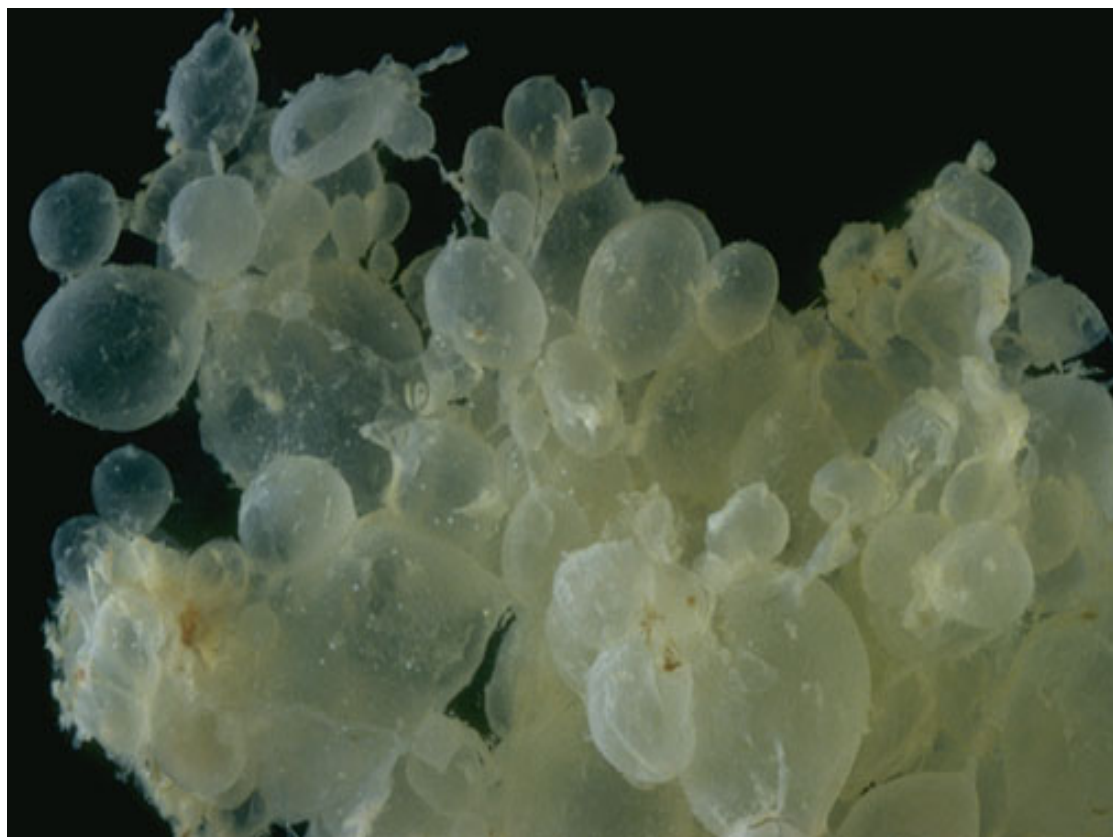
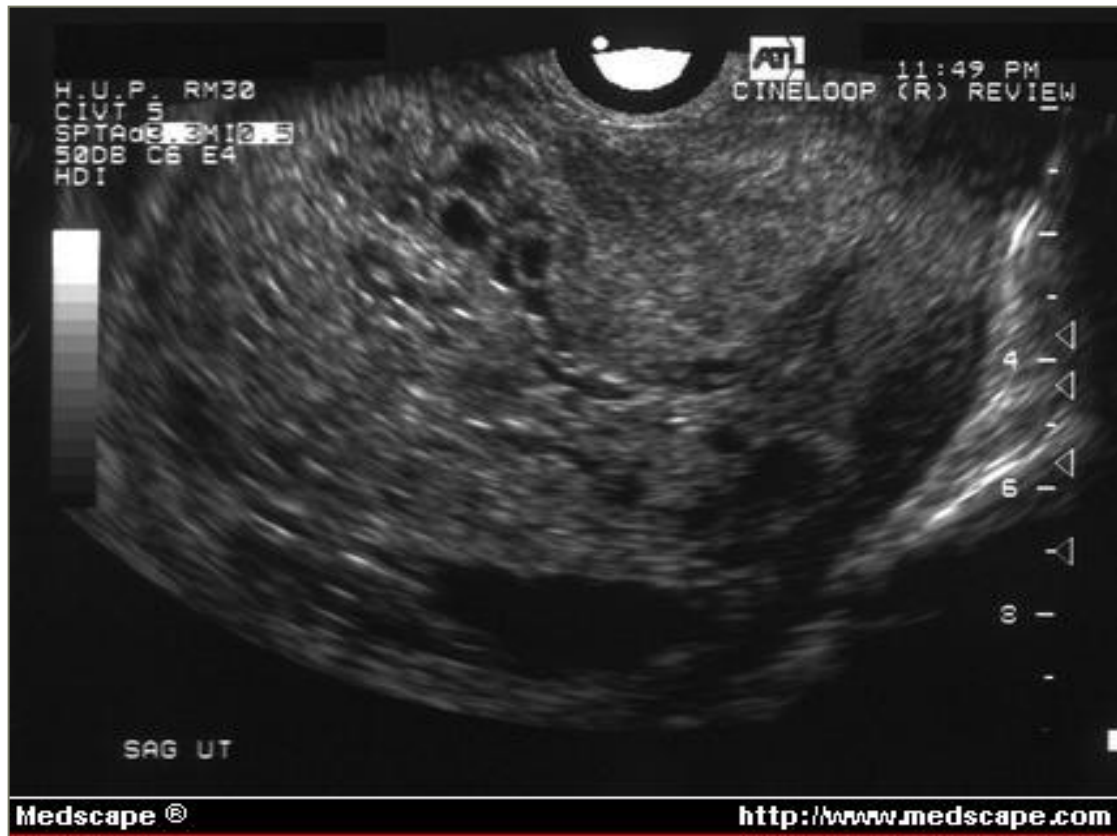
- Abnormal bleeding (irregular or heavy) in early pregnancy (1st trimester or early 2nd).
- Lower abdominal pain → uterine contractions (but usually the bleeding is painless).
- Toxemia before 24 weeks of gestation (preeclampsia).
- Hyperemesis gravidarum (excessive nausea) due to high HCG levels.
- Hyperthyroidism (nervousness, anorexia, and tremors) due to placental thyrotropin production.
- Expulsion of swollen villi (vesicles) from vagina.
- Irritability, dizziness, and photophobia.

B. Signs:

- Uterus large for dates in 50% of patients, where 25% have size compatible or smaller than gestational age mostly in incomplete mole.
- No fetal heart rate
- Enlargement of the ovaries by theca-lutein cyst occurs in about 1\3 of patients (mostly complete mole), difficult to detect until uterus is evacuated.
- Blood clots & grape like vesicles may be found in the vagina.
- Tachycardia, tachypnea, and hypertension (signs of preeclampsia or hyperthyroidism)

DIAGNOSIS:

1. **Ultrasound** shows **snowstorm-like appearance**, fetus may be absent or present (depending on the type) , theca lutein cyst (more seen in complete mole).
2. **Beta hCG** level in normal pregnancy at it peak at around 14 weeks is 100,000 mIU/ml, but in **molar pregnancy** (or multiple gestations) it is > 100,000 mIU/ml.
3. **Chest X-Ray:** for detecting any metastasis to the lungs (remember it always have the potential to be progress to trophoblastic tumor).

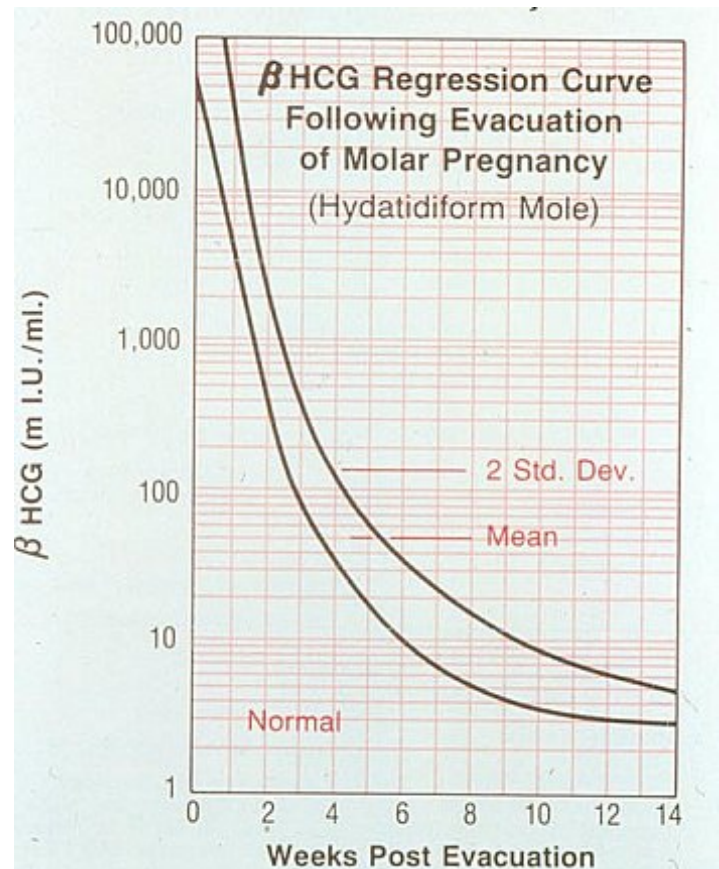


MANAGEMENT

1. hCG levels pre-evacuation.
2. Chest x-ray.
3. Correct: Anemia, Toxemia, Hyperthyroidism, Pulmonary compromise (due to trophoblastic embolization, fluid over load or metastasis).
4. Once the diagnosis is made **evacuation of the uterus should be done** , **Suction D&C** is the method of choice (oxytocin is given IV simultaneously to stimulate the uterus to contract and reduce blood loss).
 - **Complications:** massive hemorrhage, uterine perforation, and trophoblastic embolization.
5. **Hysterectomy:** is an option in women who have completed child bearing or old (and have a higher risk of malignancy) or have one of the above complications of D&C.
6. Prophylactic chemotherapy is **not indicated** in patients with molar pregnancy because 90% of these individuals have spontaneous remissions.

FOLLOW UP

1. HCG weekly until normal (not detectable) for two values then monthly for one year.
 2. Repeat X-Ray if HCG rises or plateau.
 3. Contraception for one year (to prevent confusion of recurrent disease with rising levels from pregnancy).
 4. Pelvic examination every 3 weeks for 3 months.
- **Initiate chemotherapy if:**
 1. HCG level is increasing or plateaus
 2. Metastasis disease is present
 3. HCG level is still elevated after 6 months of evacuation
 4. HCG starts to rise after being undetectable



FIGO CLASSIFICATION SYSTEM OF GTT (GESTATIONAL TROPHOBLASTIC TUMOR)

INTERNATIONAL FEDERATION OF GYNECOLOGY & OBSTETRIC

- Stage I : Confined to corpus uteri (in the uterus only)
- Stage II : Metastases to vagina or pelvic organs
- Stage III : Metastases to lungs
- Stage IV : Distant metastases (to brain , liver , kidneys , GIT)

PROGNOSTIC CLASSIFICATION OF GTT

- Nonmetastatic GTT
 - Metastatic GTT: disease outside the uterus.
-
- ✓ Good prognosis:
 1. Disease present less than 4 months
 2. Pretreatment HCG is less than 40,000
 3. No prior chemotherapy
 4. No metastasis to the liver or the brain
 - ☒ Poor prognosis:

The opposite of good prognosis