

433 Teams

OBSTETRICS & GYNECOLOGY

Gestational trophoblastic neoplasia

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Objectives:

- Describe the symptoms and physical examination findings of a patient with GTN including molar pregnancy
- Describe the diagnostic methods, treatment options and follow-up for GTN including molar pregnancy.
- Recognize the difference between molar pregnancy and malignant GTN.

Gestational trophoblastic disease (GTD): It's an abnormal proliferation of trophoblasts from the placenta.

Gestational trophoblastic neoplasia (GTN): “malignant GTD” include choriocarcinoma , placental site trophoblastic tumor and invasive mole these may follow a normal pregnancy or hyaditiform mole.

In the past the majority of patients with GTN localized to the uterus were cured with hysterectomy, but metastatic disease was associated with high mortality. Now with ability to measure beta HCG level and highly effective chemotherapy most GTN can be cured and reproductive function preserved.

Hydatiform mole\molar pregnancy are non invasive localized tumors that result from abnormal fertilization events that result in proliferation of trophoblastic tissue they are classified as partial or complete molar pregnancy. Partial and complete hydatiform mole are distinct disease processes although they are managed similarly. In a partial molar pregnancy, a haploid ovum is fertilized by two sperms this result in a triploid karyotype of 69 XXX or 69XXY.

There's often a fetus present that is small for gestational age that usually die in utero these rarely go on to become malignant(<5%).

complete molar pregnancy: a result of two sperms fertilizing an empty ovum the karyotype is 46XX or 46XY and there's a 6- 32% chance of becoming malignant.

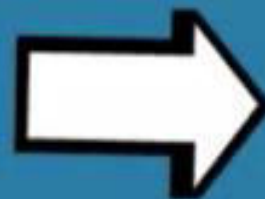
Gestational Trophoblastic Neoplasia (GTN) or Malignant GTD

invasive mole



edematous chorionic villi with trophoblastic proliferation that invade into the myometrium

choriocarcinoma



neoplastic syncytiotrophoblast and cytotrophoblast without chorionic villi

placenta site trophoblastic tumor



absence of villi with proliferation of intermediate trophoblast cells

Complete

Signs and Symptoms Molar Pregnancy



Hyperemesis gravidarum

Large uterus

No fetal heart tones

Vaginal bleeding

Abnormally high beta-hCG

Large cystic ovaries

complete: hyperemesis gravidarum – abnormally high Beta-hCG – large uterus for gestational age – large cystic ovaries – no fetal heart tone).

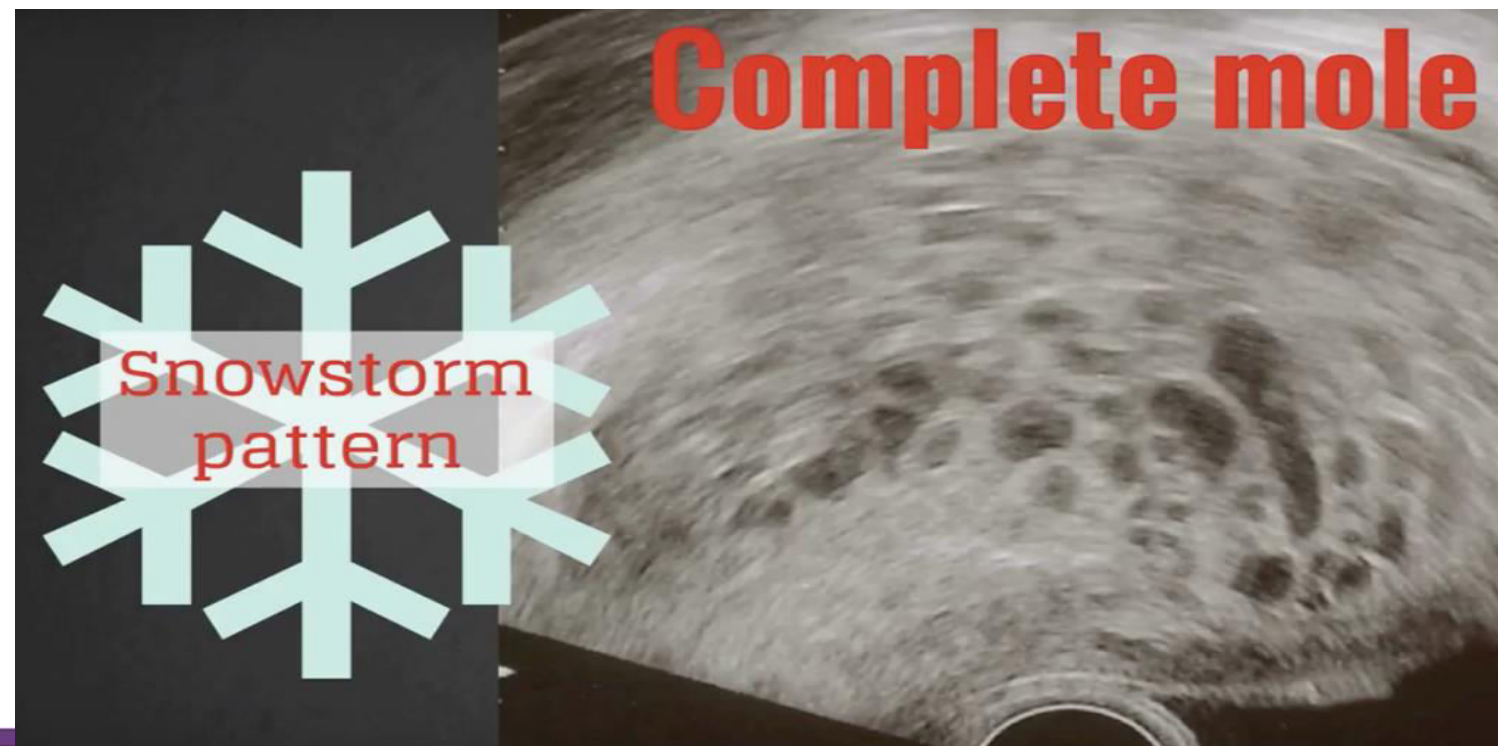
partial: similar to miscarriage (absent fetal heart tone and vaginal bleeding).

Malignant: abnormal bleeding > 6 weeks.

Diagnosis :

CMP: with ultra-sound – large cystic ovaries can support the diagnosis.

Post molar GTN (persistent and invasive mole): Diagnosed by increasing or plateauing of Beta hCG after evacuation of a mole.

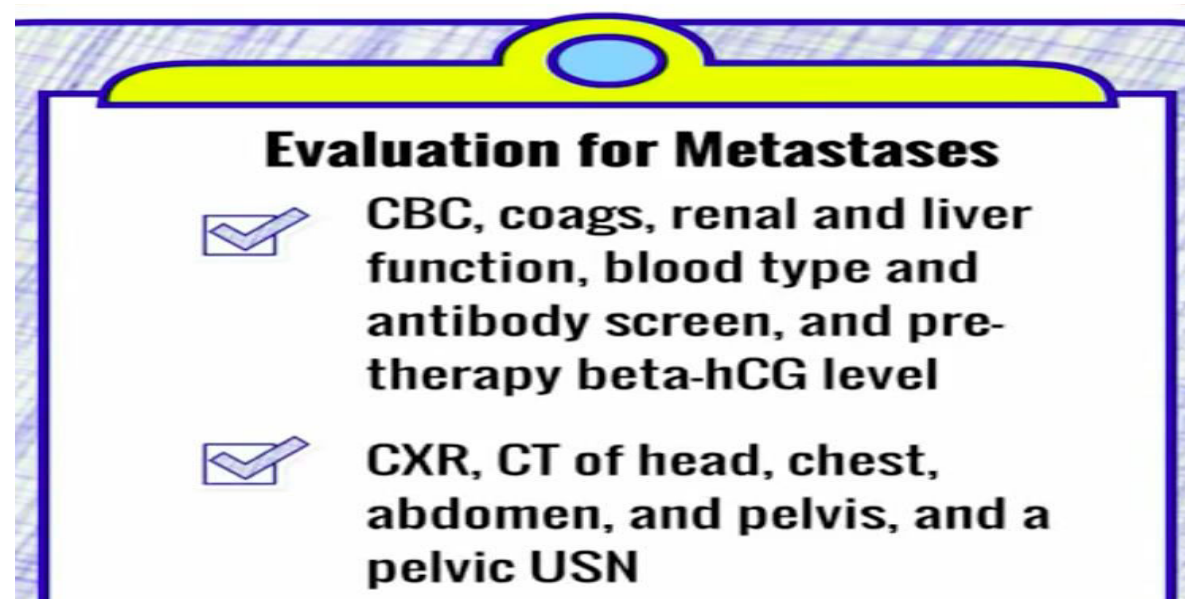


Treatment: 1- suction dilation and curettage

2- hysterectomy (for patients don't wish to preserve childbearing).

For follow up: check Beta hCG level at 46 hours post-evacuation then every 1-2 weeks while elevated and then monthly for 6 months. (during this time the patient should use a reliable contraceptive method)

If malignant GTD: referral and evaluation of metastases and its risk factors.



if there is no metastasis: chemotherapy (methotrexate)

with metastasis: referral, chemo and possible radiation.

(during this time the patient should use a reliable contraceptive method)

TEACHING CASE

CASE: A 15-year-old primigravida presents for routine prenatal care. She is 14 weeks pregnant by last menstrual period. She has some nausea but otherwise feels well. The pregnancy to date has been unremarkable. She has support from her parents and the father of the baby.

The uterus is enlarged, measuring 20 cm from the pubic symphysis. Fetal heart tones are not auscultated by Doppler. She denies vaginal bleeding or passage of tissue from the vagina. Vaginal exam is unremarkable.

Routine prenatal labs were unremarkable. She is Rh-positive. Quantitative beta hCG levels were markedly elevated at 112,320 mIU/ml. TSH was low and further thyroid testing revealed the patient to be mildly hyperthyroid.

Ultrasound showed the uterus to be enlarged, with multiple internal echoes and a “snow storm” appearance. No fetus is noted. Ultrasound also showed enlarged multiloculated ovarian cysts bilaterally.

1- What is the differential diagnosis prior to receiving your ultrasound result?

- Poor dates, most likely if the patient's menses are irregular
- Multiple gestation
- Molar pregnancy (complete or partial)

2- What aspects of the ultrasound guide the diagnosis?

- Ultrasound will evaluate the abnormal placental appearance of molar pregnancy and the presence (partial molar pregnancy) or absence of an associated fetus (complete molar pregnancy)
- Ultrasound will also reveal any associated ovarian enlargement.

3- What evaluation do you need to make a final diagnosis?

- Although ultrasound can diagnose gestational trophoblastic neoplasia; pathology is needed to confirm the diagnosis with or without malignant change.
- A chest x-ray is recommended prior to uterine evacuation to diagnose the likelihood of metastatic disease.
- In this context ultrasound is diagnostic of bilateral theca lutein cysts (no ovarian tissue is needed for this diagnosis).

What is the epidemiology and clinical course of this condition?

- Gestational trophoblastic neoplasia is the most curable gynecological malignancy.
- Although patients with hydatidiform mole are classically described as having a uterus that is large for dates, this only occurs in approximately half of the patients.
- Molar pregnancies are more likely to occur in women 15-years-old or less, or 40-years-old and greater.
- Ethnicity: Asian women are almost twice as likely to develop GTN as women of other ethnic groups.
- Gestational trophoblastic neoplasia is frequently associated with hyperthyroidism due to the release of a thyrotropin-like compound by the molar tissue.
- Patients with molar pregnancy have increased risk of trophoblastic disease in later pregnancies (recurrence rate is 1%) and should have early ultrasound in every subsequent pregnancy.

What is your management plan?

- Primary treatment is suction evacuation of the uterus.
- Beta hCG's should be followed regularly until negative, i.e. weekly until negative and then monthly for six months to a year.
- As patients with gestational trophoblastic neoplasia should not attempt subsequent pregnancy until after this time period, reliable contraception use needs to be discussed and implemented.
- If beta hCG does not rapidly decrease, consideration of post molar GTN must be considered.
- Methotrexate would be appropriate as secondary treatment.
- Thyroid function should also be followed until normalized.
- Chest x-ray and pelvic examination for uterine enlargement should be followed to rule out choriocarcinoma and to document the resolution of the ovarian cysts.

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