HPI: 24 year old female at 16w3d gestation with no fetal cardiac activity

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Patient Presentation

• HPI: 24 year old, G4P1021 female at 16w3d gestation presenting to Ob/Gyn for routine prenatal care. Previous prenatal visits and noninvasive prenatal testing have been unremarkable. Patient has no complaints
• Maternal Medical History: 1 living child, 2 prior abortions
• Family History: Noncontributory
• Social History: Noncontributory
Pertinent Physical Exam and Labs

- Physical Exam:
  - VScan showed no fetal cardiac activity
  - hCG: 11,665 mIU/ml
What Imaging Should We Order?
Select the applicable ACR Appropriateness Criteria

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Appropriateness Category</th>
<th>Relative Radiation Level</th>
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<tbody>
<tr>
<td>US pelvis transvaginal</td>
<td>Usually Appropriate</td>
<td>O</td>
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<tr>
<td>US duplex Doppler pelvis</td>
<td>Usually Appropriate</td>
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<tr>
<td>US pelvis transabdominal</td>
<td>Usually Appropriate</td>
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<td>Radiography chest</td>
<td>May Be Appropriate</td>
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<td>CT abdomen and pelvis with IV contrast</td>
<td>Usually Not Appropriate</td>
<td>★★★★</td>
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<tr>
<td>CT abdomen and pelvis without and with IV contrast</td>
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<td>FDG-PET/CT skull base to mid-thigh</td>
<td>Usually Not Appropriate</td>
<td>★★★★★</td>
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<td>MRI head without and with IV contrast</td>
<td>Usually Not Appropriate</td>
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This imaging modality was ordered by the Ob/Gyn team.
Findings (unlabeled)
Findings (labeled)

* — Dystrophic tissue
X — Gestational Sac
Arrow — Fetal pole

Fetal pole with crown-rump length measuring 4.01 cm consistent with 11 weeks gestation and lack of cardiac activity diagnostic of fetal demise
Findings (labeled)

- Cystic changes around the gestational sac may relate to hydropic degeneration in setting of fetal demise vs gestational trophoblastic disease

X - gestational sac
Circle - cystic changes
Final Dx:

Partial Molar Pregnancy
Hydatidiform Mole

Epidemiology
- 60-120/100,000 pregnancies form hydatidiform moles; although varies widely by region
- Risk Factors: prior molar pregnancy, maternal age ≤15 or >35, hx infertility or spontaneous abortion

Etiology
- Type of gestational trophoblastic disease due to over-proliferative chorionic villi
- Two forms:
  - Partial - Haploid ovum fertilized by two sperm
    - 69, XXX; XXY; XYY
  - Complete - Enucleated egg fertilized by two sperm or haploid sperm duplicates
    - 46, XX; XY
- Histopathology: Hydropic chorionic villi with peripheral proliferation of trophoblasts; partial moles may contain fetal tissue
Hydatidiform Mole

Clinical Presentation

- Patients may present with vaginal bleeding, hyperemesis, hyperthyroidism, vaginal passage of “grape-like” tissue clusters
- Partial mole may present as threatened or spontaneous abortion

Diagnosis

- US Pelvis Transvaginal
  - Complete Mole: heterogenous mass with multiple anechoic spaces in uterine cavity - “snow storm” appearance
  - Partial Mole: possible fetus, enlarged cystic spaces “Swiss cheese pattern”, increased echogenicity of chorionic villi
- hCG may be elevated >100,000 in complete molar pregnancy
- Diagnosis confirmed by histopathology and karyotyping of uterine specimen
Hydatidiform Mole

**Treatment**
- Dilation and Curettage is often necessary to remove molar pregnancy
- hCG levels should be monitored following surgical intervention
  - If hCG levels remain high, follow up is required to evaluate persistent or invasive disease and possible chemotherapy
  - Risk of invasive disease is 15-20% in complete molar pregnancy, and 1-5% in partial molar pregnancy

**Patient Outcome**
- Patient underwent D&C to remove fetal and dystrophic tissue
- Pathology of uterine specimen revealed immature chorionic villi with morphologic features compatible with partial hydatidiform mole. Chromosome analysis revealed karyotype of 69, XXY
- hCG levels were monitored weekly to ensure decreasing values
References:


