Review of Ectopic Pregnancy

KRISTIN HARKINS, M.D.
12/10/2014
Disclosures

- Nothing
Ectopic Pregnancy

Definition: implantation of the blastocyst anywhere other than the endometrial lining of the uterine cavity.
Occurrence

2%
Location

- 95% are found in the ____________________?
  - Abdomen
  - Cervix
  - Fallopian tube
  - Ovary
  - Broad-ligament
Fallopian tube
Label It
Tube Anatomy
Problems

- Lacking Submucosal layer
  - Allows blastocyst to burrow into the epithelium and muscular wall.
  - Tubal wall offers little resistance and trophoblast invades through it.
Outcomes

- Differ depending on location
  - Isthmic: more likely to rupture
  - Ampullary: Abortion more common
  - Interstitial: rupture later (up to 16 weeks)
    - Dual blood supply ↑ Hemorrhage.
Clinical features

- Pain (95%)
- Abnormal bleeding (60-80%) amenorrhea and spotting
- Pelvic tenderness +/- CMT: (75%)
- Uterine changes: (25%)
- Blood pressure and pulse: varies
- Pelvic Mass: palpable (20%)
- Culdocentesis
Laboratory

- CBC: anemia and leukocytosis up to 30k
- HCG: Urine ELISA sensitive to 10-20 mIU/ml + in 99%
- Serum Progesterone:
  - >25 ng/ml excludes ectopic (97.5%)
  - <5 ng/ml excludes normal pregnancy (99.7%)
Ultrasonography

- **Abdominal Sono:**
  - Difficult to ID products in adnexa
  - IU gestational sac is reassuring (heterotopic is rare)
  - Can see fluid in cul-de-sac

- **Vaginal Sono:**
  - Gestational sac seen 50% with BHCG greater than 1000 mIU/ml
  - Detect adnexal masses
Discriminatory zone

- >1500 should seen an IUP by vus
- <1500 serial evaluations
Rules to count by

▶ B-HCG increases 53% in 48 hrs in normal pregnancies
▶ Increases 24% in 24 hrs
Treatment

- Surgical vs Medical
- Surgical:
  - Traditional approach
  - Appropriate for hemodynamically unstable patients
  - Laparoscopy is preferred to laparotomy especially if unruptured
    - Conservative: Salpingostomy/Salpingotomy
    - Radical: Salpingectomy
Treatment

- Surgical vs Medical
- Medical Contraindications:
  - Hemodynamic instability
  - Breastfeeding
  - Immunodeficiency
  - Alcoholism
  - Liver or renal disease
  - Blood dyscrasias
  - Active pulmonary disease
  - Peptic ulcer
Methotrexate

- Folic acid antagonist
- Works best if pregnancy is <4cm, <6wks, no cardiac activity, B-HCG <15000
- Can be outpatient if rapid reliable transportation
- Prohibits sexual intercourse, alcohol use, folic acid supplementation
Dosing

Single Dose
- Methotrexate 50mg/m² IM
  - Check B-HCG day 4 and 7
  - If 15% decrease, check B-HCG wkly
  - If <15% repeat dose up to three doses
    87% successful

Variable dose
- Methotrexate 1mg/kg IM d 1,3,5,7
- Leukovorin 0.1mg/kg IM d 2,4,6,8
- Continue until B-HCG decreases 15% in 48hrs, or 4 doses methotrexate
- Weekly B-HCG until zero
  93% successful
Methotrexate success rates in progressing ectopic pregnancies: a reappraisal
Cohen, A. Zakar L, Gil Y, et al.
Study

- Retrospective cohort from 2001-2013 in Tel Aviv.
- 1703 women
- 620 had immediate surgery
- 1083 had watchful waiting with daily β-HCGs
- 674 (40%) spontaneous resolution
- 409 (24%) treated with Methotrexate
- 87% treated successfully, 13% failed.
Success varied

<table>
<thead>
<tr>
<th>Value</th>
<th>Success Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;500</td>
<td>96%</td>
</tr>
<tr>
<td>&lt;1000</td>
<td>93%</td>
</tr>
<tr>
<td>&lt;2000</td>
<td>88%</td>
</tr>
<tr>
<td>&lt;3500</td>
<td>75%</td>
</tr>
<tr>
<td>&gt;4500</td>
<td>65%</td>
</tr>
</tbody>
</table>

Cliffs of Moher, Ireland