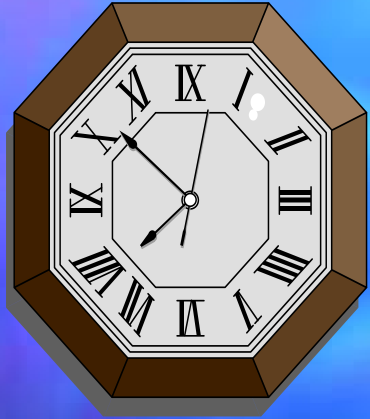
Ectopic pregnancy

B. Held

Historical perspective



- First described by Albucasis AD 963
- 1693 autopsy of a prostitute showed an unruptured ectopic
- John Bard (NYC) 1759, William Baynham (Va) 1791
- Robert Lawson Tait (London) 1883
- First 50 years of the 20th century
  - Mortality 200-400/10,000

Epidemiology of ectopic pregnancy

- CDC 1970: 17,800 EP's
  - Rate 4.5/1000 pregnancies
  - Mortality 35.5/10,000 EP's
- CDC 1987: 88,000 EP's
  - Rate 15.1/1000
  - Mortality 3.8/10000
- Decrease of 90% in mortality in 20 yrs.

Contents

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- treatment
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- Side effects of treatment
- future fertility
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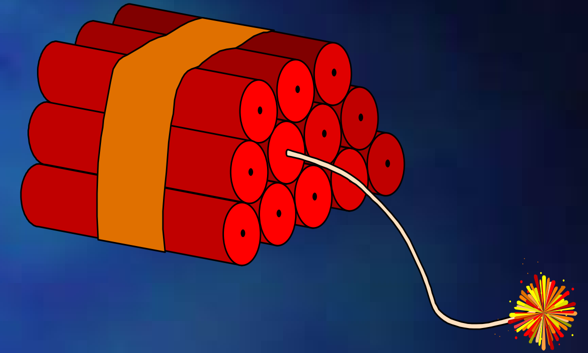
Ectopic pregnancy-what/where?

- Tubal (97.7%)
  - interstitial(1.3%), prox.1/3 (12%),
  - mid 1/3 (38%), distal 1/3 (41%),
  - fimbrial (5%)
- abdominal (1.4%)
- uterine (.15%)
  - cervical (0.2%), cornual (0.6%)
- ovarian(0.2%)

Risk factors/ Etiology

- Tubal Pathology
  - Salpingitis, SIN, surgery, DES
- Contraceptive failure
- Hormonal
  - ↑ Estrogen, progesterone
- Embryonic abnormality

Symptoms and Signs



- Symptoms:
  - None
  - Abdominal pain (90-100%)
  - Amenorrhea (75-90%)
  - Vaginal bleeding (50-80%)
  - Passage of tissue (5-10%)
- Signs:
    - Adnexal/abd. Tenderness (75-95%)
    - Mass (50%), tilt (10-15%),
    - Fever (5-10%)

Diagnosis

- Clinical suspicion
- Abnormal rise in BhcG
  - Abnormal progesterone
- Culdocentesis
  - nonclotting blood w/ hct >15%
  - \+ culdocentesis does not mean rupture
- Laparoscopy
- Ultrasound
- D&C

Treatment options

- Expectant management
- surgical treatment
  - radical vs conservative
  - laparoscopy vs laparotomy
- medical treatment
  - RU486, hyperosmolar glucose, Methotrexate

Expectant Management

- Lund (1955) 119 EP’s
  - 68 (57%) spontaneously resolved
- Trio et al (1995) Fertility and Sterility
  - 49/67 (73%) spont. resolved
  - hcG<1000, 37/42 (88%)
  - hcG> or= 1000, 12/25 (48%)

Guidelines for expectant management

- asymptomatic,
- initial BhcG<1000
- mass<3 cm

- ↓ BhcG

Surgery

- Radical-Salpingectomy
- ipsilateral oophorectomy?
- Conservative
  - Salpingotomy vs Salpingostomy
    - Turandi and Guralnick (1991)
  - fimbrial evacuation is associated with high rate of recurrent EP (24%)
  - partial salpingectomy (segmental resection) in selected situation

Laparotomy vs Laparoscopy

- Vermesh et al (1989) Obstet Gynecol 73:400,1989
  - 60 patients with unruptured EP<5cm undergoing salpingostomy
  - shorter hospital stay-1.4d vs 3.3
    - average saving $1500
  - less blood loss in laparoscopy group
  - quicker return to activities
  - postop hsg 80% patency (scope) vs 89% (lap)
- pregnancy 56% vs 58%, ep 6% vs 16%

When to scope vs laparotomy?

- DeCherney (1981) 3 cm
- Pouly (1986) 6 cm
- Vermesh (1989)
  - All < or = 4cm successfully scoped
  - 4/6 successful at 5cm
  - Upper limit 4-6 cm for laparoscopy
    - 2 in scope group required laparotomy for bleeding (both were 5 cm)

Persistent ectopic pregnancy

- Seifer et al. Obstet Gynecol1993;81:378-82.
- 157 patients undergoing salpingostomy
- 103 laparoscopic, 54 laparotomy
- persistent ectopic in 15.5% ‘scope group vs 1.8 % laparotomy group
- smaller ectopic size 2.8 vs 3.2 cm
- less bleeding → less cleavage plane

Dx of persistent ectopic

- Hajenius et al. Hum Reprod 1995;10:3, 683-87.
  - 97 patients
  - 28 scope salpingostomy, 16 open salpingostomy, 53 salpingectomy
  - 7 days to reach 95% of BhcG clearance
  - similar in all 3 arms of study.
- Vermesh et al. Fert Steril 50:584,1988
  - 120 patients treated conservatively
  - Dx on day 12 if BhcG not 10% of preop

Medical treatment

- Methotrexate-folic acid analog, inhibits dihydrofolate reductase and halting DNA synthesis.
- Stovall and Ling Am j Obstet Gynecol 1993, 168:1759-65.
  - prospective study of 120 patients treated with MTX 50 mg/m2
  - 94% treated, 3% needed 2nd dose on D#7
  - mean time to resolution 35.5+/-11.8d
  - tubal patency 82%, 80 % pregnancy with 12% repeat ectopic

Single dose MTX inclusion criteria

- Unruptured EP 3.5 cm or less
- normal wbc, platelet count,
- normal LFT's and renal function
- hemodynamically stable
- ectopic cardiac activity only relative contraindication as there is a 20% failure rate.

MTX administration and f/u

- Day 1: MTX 50 mg/m2
- Day 4: BhcG
- Day 7: BhcG
  - if there is not at least 15% decrease from Day 4 to Day 7, retreat.
- Day 4 value often higher than Day 1
- Follow BhcG weekly until negative.
  - Patient to abstain from intercourse, alcohol, vitamin with folate until resolution

MTX for persistent ectopic

- Graczykowski and Mishell Obstet Gynecol 1997;89:118-22
- 129 patients undergoing salpingostomy
  - prophylaxis group: MTX 1mg/kg within 24 hrs postop.
  - Control group: no treatment
- persistent ectopic
  - 1 (2%) prophylaxis, 9 (15%) control
  - $p<.05$

Side effects of MTX therapy

- Glock et al. Fertil Steril 1994;62:716-21.
  - 34% had mild SE’s resolving spontaneously
- Abdominal pain in 33%
- Onset 6.3 days, duration 1.6 day
- Nausea and vomiting
- Stomatitis
- Mild elevation of LFT’s

Complications of MTX therapy

- Neutropenia reported by Isaacs et al after single dose MTX therapy in 2 patients.
  - ANC 500 hospitalized for 1 month
  - ANC 1300 hospitalized for 13 days.
- Chronic ectopic-hematocoeles
  - Zullo et al (1996)
  - presents as pelvic mass, V.B. , and pain months after resolution of BhcG

Is MTX the way to go?

- Alexander et al. Obstet Gynecol 1996;88:123-7
- Single dose IM MTX vs laparoscopic salpingostomy
- MTX $438-1390
- laparoscopy $2506-2974.
- Savings of $1124-2536.

Future Fertility

- Subsequent IUP after surgery.
  - Conservative (53%) vs Radical (49%)
  - Recurrent EP: conservative (15%) vs radical (10%)
- Salpingostomy by laparoscopy vs laparotomy
  - IUP 61%, recurrent EP 15% in both groups.
- 93% spont. pregnancy occurred in the first 18 months.
  - Role for IVF

Don’t Forget

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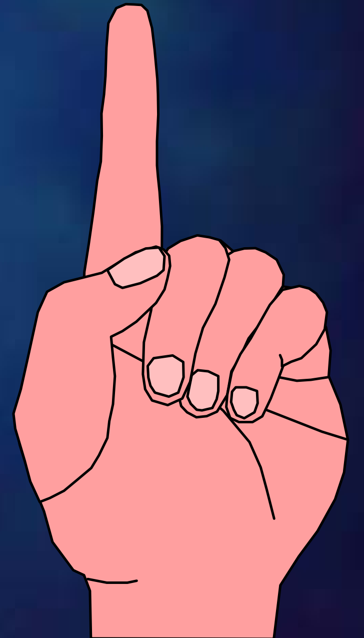
Give Rhogam

Give Rhogam

Wouldn’t be prudent!



And Now……

The Pathway