Disclosures

• Receives honoraria from UpToDate for co-authoring six topics related to early pregnancy loss.
• Receives honoraria for developing content and training on IUDs

Objectives

1. Understand the diagnosis of early pregnancy loss (EPL)
2. Describe relevance of EPL management in the outpatient setting
3. Describe the uterine evacuation procedure using the manual uterine aspirator (MUA)
4. Express an awareness of the range of values each member of the healthcare team brings to EPL care
5. Highlight the importance of providing non-judgmental care to patients
Nomenclature

Early Pregnancy Loss/Failure (EPL/EPF)
Spontaneous Abortion (SAb)
Miscarriage

These are all used interchangeably!

Manual Uterine Aspiration/Aspirator (MUA)
Manual Vacuum Aspiration/Aspirator (MVA)
Uterine Evacuation
Suction D&C/D&C/dilation and curettage

Background

• Early Pregnancy Loss (EPL) = nonviable, intrauterine pregnancy < 13 weeks’ gestation
• EPL is the most common complication of early pregnancy
  • 15–20% clinically recognized pregnancies
  • ~ One million EPLs each year in the U.S.

Pregnant + Bleeding in the ED

Bleeding in early pregnancy accounts for 3% of ED visits for all women ages 15-44

900,000 annual ED visits
Sam

26 yo G2P1 presents with vaginal bleeding after a positive home pregnancy test. An ultrasound shows a CRL of 7mm but no cardiac activity.

Risk Factors for EPL

- Age
- Prior EPL
- High gravidity
- Maternal BMI < 18.5 or > 25
- Endocrine disorders (thyroid disease, diabetes)
- Maternal infection
- Smoking, alcohol, cocaine
- NSAIDs
- Caffeine (> 200mg per day)
- Low folate levels
- Environmental pollutants
- Structural inequalities/racism

Etiology of EPL

- Chromosomal abnormalities (50%)
  - Trisomies (50-60%)
  - Polyploidies (20%)
  - Monosomy X (12%)
  - Other
- Maternal factors
  - Structural abnormalities
  - Maternal infection/endocrinopathy/thrombophilia
- Unexplained
Clinical Presentation of EPL

- Bleeding
- Pain/cramping
- Falling or abnormally rising βhCG
- Decreased symptoms of pregnancy
- No symptoms at all!

Sam
26 yo G2P1, CRL of 7mm but no cardiac activity
Past Medical History: wisdom teeth removed
Ob History: term vaginal delivery without complication
Allergies: no known drug allergies

Sam and partner request information on all the treatment options. You confirm the rest of the history.
Management Options

Do Nothing: Expectant management
Do Something: Medication management
Aspirate: Uterine Aspiration

Expectant Management

• Requirements for therapy:
  • <13 weeks gestation
  • Stable vital signs
  • No evidence of infection

• What to expect:
  • Most expel within 2 weeks after diagnosis
  • Prolonged follow-up may be needed
  • Acceptable and safe to wait 4+ weeks post-diagnosis

Expectant Management

• Miscarriage is often painful

• For patients wanting expectant (or medical) management, give pain medications for home use:
  • NSAIDs
    • Ibuprofen 800 mg q 8
    • Naproxen 500 mg q 12
  • Narcotic (e.g. oxycodone) only as needed

• Recommend adding heating pad/hot water bottle
Expectant Management: Outcomes

Overall success rate 81%
Success rates vary by type of miscarriage (helpful to tailor counseling)
- Incomplete/inevitable abortion: 91%
- Embryonic demise: 76%
- Anembryonic pregnancies: 66%

What is Success? Definitions Used in Studies

- Ultrasound documentation of absence of gestational sac
  - Surgical intervention is not required for asymptomatic women with thickened endometrial stripe
  - Alternative options: phone calls, hCG measurements

When to Intervene for Expectant Management?

- Continued gestational sac
- Clinical symptoms
- Patient preference
- Time (?)
- Vaginal bleeding and positive UPT are possible for 2–4 weeks
  - Poor measures of success
Sam
26 yo G2P1, CRL of 7mm but no cardiac activity

Sam is continuing to bleed, though not heavily. Sam calls the clinic a few days later and reports feeling anxious waiting and would like to do something.

Medication Management

- Misoprostol
- Misoprostol + Mifepristone

Medication Management: Requirements

- <13 weeks gestation
- Stable vital signs
- No evidence of infection
- No allergies to medications used
- Adequate counseling and patient acceptance of side effects
Misoprostol

- Prostaglandin E1 analogue
- FDA approved for prevention of gastric ulcers
- Used off-label for many Ob/Gyn indications:
  - Labor induction
  - Cervical ripening
  - Medical abortion (with mifepristone)
  - Prevention/treatment of postpartum hemorrhage
- Can be administered by oral, buccal, sublingual, vaginal and rectal routes
- Cost effective, stable at room temperature


Misoprostol Dosing

- 800 mcg per vagina or buccally
- Repeat at 12–24 hours, if incomplete
- Repeat 3-4 hours after first dose if ≤ 9 weeks (*discharge home with additional doses)
- Measure success as with expectant management
- Intervene with uterine aspiration management as needed (same as with expectant management)
- Success rate depends on type of miscarriage
  - ~ 100% with incomplete abortion
  - ~ 87% for all others


Medication Management: Mifepristone & Misoprostol

Mifepristone: Progestin antagonist that binds to progestin receptor: Used with elective medical abortion to "destabilize" implantation site

- Current evidence-based regimen: 200 mg mifepristone + 800 mcg misoprostol
- Success rates for mifepristone & misoprostol in EPL:
  - 83.8% by day 2 (67.1% miso alone) RR 1.25[1.09 to 1.43]
  - 87.8% by day 8 (71.1% miso alone) RR 1.23[1.10 to 1.39]
- Need for uterine aspiration:
  - 9.8% by day 30 (25.5% miso alone) RR 0.37[0.21 to 0.68]
- Mifepristone improves outcomes; use if you can

Successful Medication Management

- Ultrasound documentation of absence of gestational sac
- Surgical intervention is not required for asymptomatic patients with thickened endometrial stripe
- Alternative options: phone calls, hCG measurements

Sam
26 yo G2P1, CRL of 7mm but no cardiac activity

What if instead, Sam opts to go directly to uterine aspiration? Sam is concerned about the unpredictability of medication management. Is Sam a good candidate for aspiration?

Uterine Aspiration Management

Who should have management with uterine aspiration?
- Unstable
- Significant medical morbidity
- Infection
- Very heavy bleeding
- Anyone who wants uterine aspiration
Uterine Aspiration Management

What is a Manual Uterine Aspirator?

- Locking valve
- Portable and reusable
- Equivalent to electric pump
- Efficacy same as electric vacuum (98%–99%)
- Semi-flexible plastic cannula

Advantages of MUA treatment in the ED

- Simple
- Safe
- Fast
- Efficacious
- $S$ Sparing
- Common
- Hospital admits & OR resources
- Improves ED flow
- Reduces repeat visits
MUA Instruments

Step-by-step guide available on IPAS website

Complications with MUA

- Very rare
- May include:
  - Incomplete evacuation
  - Uterine or cervical injury
  - Infection
  - Hemorrhage
  - Vagal reaction


Oral Pain Medications for Uterine Aspiration

- NSAID
  - Ibuprofen 800 mg
  - Naproxen 500 mg
- Benzodiazepine
  - Lorazepam 1-4 mg PO/IV
  - Oxazepam 2-10 mg PO
- Narcotic
  - Not routinely recommended
  - Doesn’t improve pain control
  - Increases vomiting

- Paracervical block!
  - E.g. 20cc 1% lidocaine

- Ancillary anesthesia
  - Importance of psychological preparation and support
  - RCT demonstrated benefit of music/headphones

Best Practices in Counseling

- Put aside YOUR preconceived notions of how the patient may be feeling about the pregnancy, the pregnancy loss, and options for management.
- Consider remaining silent after providing initial results or information.
- Determine if the pregnancy is desired.
- Ask open-ended questions and use active listening.

Sam

Sam has the uterine aspiration with MUA procedure right there in the emergency department.

The procedure is uncomplicated and questions after include:

- "Can I get pregnant right away?"
- "Am I at risk for another miscarriage?"
Future Miscarriage Risk

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Post Early Pregnancy Loss Care

- Poor evidence for Rhogam need in early pregnancy
- US recommendations mixed, ACOG still in favor
- No evidence for pelvic rest
- No evidence for delaying a conception
- Initiate contraception upon completion of procedure (even IUDs)
- Expect light-moderate bleeding for 2 weeks
- Menses return after 4-8 weeks
- Negative ßhCG values after 2-4 weeks (don’t recommend routine checking)
- Grief counseling when appropriate

Goldstein R, Jain (ed). (Spaeth 2002; Allen F, Perinatal Mild 1994)
Grimes D, Cochrane Database Syst Rev 2000

More Information on EPL

- UW TEAMM website: [www.miscarriagemanagement.org](http://www.miscarriagemanagement.org)
- UCSF website: [www.earlypregnancyresources.org](http://www.earlypregnancyresources.org)
- HPSRx Enterprises (sole MIUA equipment distributor): [www.hpsrx.com](http://www.hpsrx.com)
- Papaya Workshop Videos: [www.papayaworkshop.org](http://www.papayaworkshop.org)
- Reproductive Health Access Project: [www.reproductiveaccess.org](http://www.reproductiveaccess.org)
- Don’t Talk About the Baby documentary: [www.donttalkaboutthebaby.com](http://www.donttalkaboutthebaby.com)
Please complete this evaluation by pointing your smart phone camera at the code, then clicking on the link.