Elective Abortion

Background

1. Definition
    - Medical or surgical termination of pregnancy
2. Maternal indications
    - Undesired pregnancy, or maternal health concerns
3. Fetal indications
    - Fetal demise, birth defects that are either incompatible with life or result in severe infant morbidity
    - Selective reduction in multi-fetal pregnancy
4. Fetal viability
    - Considered by many to occur at 24 weeks gestation, though this is a "gray" area

Maternal Indications

1. Woman can choose to end pregnancy in absence of medical indications
2. Common medical reasons:
    - Trophoblastic disease
        - Evacuation of uterus can lead to life-threatening complications
        - Should therefore be performed by physician experienced with those complications!
    - Eclampsia and severe preeclampsia
    - Heart failure
        - Blood volume peaks at the end of 2nd trimester, during labor, and due to large fluid shifts postpartum, all of which can lead to acute cardiac decompensation in otherwise asymptomatic heart failure patients
        - Highest risk:
            - NYHA class III and IV, maternal cyanosis, stenotic lesions, right to left shunt
    - Stenotic valvular heart disease
    - Severe pulmonary hypertension with Eisenmenger's syndrome (high maternal mortality)
    - Infections
        - TORCH, syphilis, primary varicella, hepatitis E, HIV and AIDS, listeria
        - Chorioamnionitis, sepsis
    - Hyperemesis
    - Seizures and its therapy
    - Thromboembolic disease, DVT, pulmonary embolism
    - Hyperthyroidism

Fetal Indications

1. Fetal demise
2. Congenital abnormalities
3. Selective reduction in multi-fetal pregnancy

Contraindications To Surgical Abortion

1. Pregnancy exceeds gestational age limit of provider's skills
2. Uncontrolled diabetes mellitus, with suspicion of DKA on the day of procedure
3. Severe medical, cardiovascular, gynecological, psychological, or hematological abnormalities making surgical risk unacceptable
4. Psychiatric or other conditions that invalidate her ability to give informed consent
5. Ectopic pregnancy
6. Allergies to substances used
7. Potential obstruction of cervical canal
    - IUD, fibroids, cervical stenosis

Contraindications To Medication Abortion

1. Exceeds gestational age of regimen chosen
2. Unwilling to have vacuum aspiration abortion if medication fails
3. Renal failure, severe liver disease, or significant cardiac disease (AHA Class 3 or worse when not pregnant)
4. Cannot return for follow-up or other medically indicated visits
5. Concurrent or long-term systemic corticosteroid use
6. Pt has IUD in place and declines removal
7. Known or suspected ectopic pregnancy
8. Molar pregnancy
9. Chronic adrenal failure
10. Allergy to mifepristone, misoprostol, prostaglandins
11. Anticoagulants or hemorrhagic disorder or inherited porphyrias
12. Does not have easy access to a telephone, emergency medical care (emergency treatment of incomplete abortion, blood transfusions or emergency resuscitation), and transportation

Conditions Requiring Special Consideration

1. Morbid obesity
2. Severe anemia
3. History of uterine scarring
4. Placenta previa
5. Asthma
    - Assess severity, instruct to take medication on day of procedure and bring asthma meds to procedure
6. HIV/AIDS
    - Assess immune status and general health
7. Poorly controlled seizure disorder
8. Ongoing alcohol or drug abuse
    - Will affect sedation options and monitoring
9. Intrauterine infection
10. Mucopurulent cervicitis
    - Assume gonorrhea / chlamydia - treat following CDC guidelines

Prerequisites

1. Pt counseling and informed consent:
    - Counseling, obtain consent in writing

- Adherence to state law
  - Parental consent for teens, 24 hour waiting period laws vary state to state

2. Medical history
   - Assess for possible contraindications, allergies
3. Determine whether intact fetal specimen is needed for autopsy and/or genetic counseling in cases of malformations before choosing the method of termination

Physical Examination

1. Temp, BP
2. Visual exam of external genitalia, cervix
3. Bimanual exam (assess size, orientation, palpate adnexa)
4. Further exam if indicated by Hx

Lab Testing

1. Blood and Rh typing, CBC, beta-hCG
   - If Rh-negative, give Rho (D) immune globulin
   - Up to 12 weeks, six days: 50 micrograms IM
   - 13 weeks, 0 days or later: 300 micrograms IM
2. Gonorrhea and chlamydia testing (CDC guidelines)
3. Second trimester fetal demise:
   - Fibrinogen, PT, PTT, CBC with platelets
4. Other tests if indicated by history

Ultrasound

1. Required if
   - Very early procedures (<6 weeks) before procedure to confirm gestational sac or after procedure, if no tissue is found
   - Unable estimate uterine size by physical exam
   - Concern client not currently pregnant
   - Uterine size is >14 weeks on exam
   - Abnormal pelvic exam
     - Large adnexal masses, irregular uterine shape
   - Ultrasound helps rule out trophoblastic dz and ectopic preg

Cervical Preparation

1. Appropriate counseling and consent obtained
2. Osmotic cervical dilator(s) and/or misoprostol are used before the procedure for mid-trimester abortions
   - Unless cervix allows insertion of appropriately sized cannulas with minimal dilation
3. Osmotic cervical dilators and/or misoprostol use optional in early abortion procedures
   - Misoprostol max dose 800 mcg (oral, buccal or vaginal)

Prophylaxis

1. Post-abortal endometritis
   - Prophylactic antibiotics should be given to patients undergoing surgical and medication abortion: eg doxycycline 100mg PO BID x7 days

2. Bacterial endocarditis (BE)
    - Follow current recommendations of American Heart Association
    - Women with negligible-risk heart lesions undergoing abortion procedures do not require prophylactic antibiotics
3. Post-abortal hemorrhage
    - Uterotonic drugs, eg. ergonovine, optional after surgical procedure to decr risk of bleeding
    - Vasopressin (Pitressin) added to local anesthetic used for paracervical block may decrease intraop / postop bleeding, especially with mid-trimester abortion

1st trimester

1. Surgical abortion is safe in first trimester
    - 4-13 weeks: Suction curettage under local anesthesia; multiple anesthesia regimens used
    - NSAIDs before the procedure help to reduce cramping after the procedure
    - Aspiration of intrauterine contents with cannula
2. Nonsurgical (Medication) termination
    - Up to 9 weeks (depending on regimen used)
        - Mifepristone followed by misoprostol results in 92-98% complete abortion
        - Misoprostol may cause severe birth defects and abortion must be completed once the process is started
        - Vacuum aspiration may be needed to complete the process (rare)
        - NSAIDs during the process help reduce cramping
        - Antiemetics may be useful during the process
    - FDA-approved regimen
        - Up to 7 weeks
        - Mifepristone 600 mg on day one
        - Misoprostol 400 mcg PO 24-48 hours later
        - Side effects: abd cramps, nausea, vomiting, diarrhea, dizziness, and heavy bleeding
    - Evidence-based regimen
        - Up to 8 weeks
        - Mifepristone 200 mg on day one
        - Misoprostol 800 mcg vaginally 24-48 hours later
        - Side effects: abd cramps, nausea, vomiting, diarrhea, dizziness, and heavy bleeding
    - Methotrexate regimen
        - Up to 8 weeks
        - Methotrexate in combination with misoprostol (Off label indication but cheaper than mifepristone)
            - NSAIDs before procedure help reduce cramping
            - Methotrexate 50 mg/m sq of body surface area, followed by
            - Misoprostol 800 mcg vaginally

2nd Trimester

1. Surgical procedure
    - Dilation and extraction under local or general anesthesia is preferred
        - Cervical dilation with laminaria is the preferred method

        - Vacuum extraction 1-2 days later under local anesthesia (paracervical block) at 13-15 weeks
        - Extraction with forceps is needed past 15 weeks
        - Suction curettage after procedure to remove any remaining products of conception
        - Fetal foot length should be documented to estimate gestational age
        - Complications: bleeding, infection, and injury to the uterus or cervix, and retained products of conception
    - Induction of labor
        - Fetocidal agents (intra-amniotic hypertonic saline) are suggested before the use of misoprostol (not in intrauterine fetal demise)
        - Intra-amniotic prostaglandin F2 alpha
            - Should not be used in patients with asthma, epilepsy, glaucoma, pulmonary hypertension, or hypertension
        - Cervical ripening/dilation, then induction of labor with misoprostol
        - Vaginal misoprostol is preferred
            - Cheaper and fewer side effects (but higher incidence of transient fetal survival)

Complications

1. Surgical abortion
    - Incomplete uterine evacuation
        - Intra-operative and post-operative hemorrhage
        - Acute hematometra
        - Uterine perforation
        - Cervical laceration
        - Vasovagal reaction, anaphylactic reaction, shock, cardiac arrest
        - Infection
        - Possible ectopic pregnancy
        - Abnormal pregnancy (mole)
        - Trapped calvarium or other retained fetal parts (may cause severe hemorrhage and/or infection) exacerbation of underlying medical or psychological conditions
    - Illegal abortions result more frequently in hemorrhage, septic shock, and uterine perforation or rupture
2. Medication abortion (nonsurgical)
    - Incomplete uterine evacuation
    - Hemorrhage
    - Problematic bleeding - may require methergine or misoprostol or non-medication interventions to resolve
    - Acute hematometra
    - Vasovagal reaction, anaphylactic reaction, shock, cardiac arrest
    - Infection
        - Typical endometritis
            - Presents with abdominal/pelvic pain and fever
            - Usually manageable in outpt setting following CDC guidelines for PID treatment
            - Close follow up required
        - Atypical endometritis or sepsis

        - May present without fever and without pain, OR with painful bloating or abdominal/pelvic pain, without fever OR may present with severe nausea and vomiting without fever
        - WBC with differential - hallmark of atypical sepsis- marked leukocytosis with a left shift
        - Hematocrit or hemoglobin - atypical sepsis often has marked hemoconcentration
        - Temp - usually afebrile
        - BP- assess for hypotension
        - Pulse- assess for tachycardia
        - If atypical sepsis likely - immediate ICU hospitalization required
        - Aerobic and anaerobic cultures - likely organism is C. sordelli
    - Abnormal pregnancy (mole)
    - Exacerbation of underlying medical or psychological conditions

Post Procedure Management

1. Evacuated tissues must be examined for villi and membranes; past 13 weeks gestation document presence of calvarium, four extremities, torso and pelvis
2. Save products of conception if needed as evidence
3. Document estimated blood loss
4. Monitor vital signs
5. All Rh-negative woman must receive post-abortion Rh- immunoglobulin
6. Routine antibiotics recommended post medication and surgical abortion to reduce risk of endometritis

Follow-up care

1. Review contraception
2. Follow up offered to all surgical patients and required for all medication patients:
3. Low-sensitivity urine pregnancy test may be used at follow-up visit to identify ongoing pregnancy
4. Medication abortion patients must return for followup visit to confirm (by ultrasound, history and physical if indicated) that no longer pregnant and having normal recovery

References

1. UpToDate 2006
2. Guide to Contraception and Family Planning, Brigham and Women's Hospital, Boston, Massachusetts
3. Obstetric Medicine Curriculum, Brown University School of Medicine, Woman and Infant's Hospital, Providence, Rhode Island

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