OPIOIDS AND PREGNANCY

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DISCLOSURES

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OBJECTIVES FOR THE TALK

• Avoiding opioids:
  - Review efficacy of non-pharmacologic therapies
  - Review safety of non-opioid medications
• Describe risks of opioids during pregnancy
  - Fetal
  - Obstetrical
  - Neonatal
• Discuss role of taper/detoxification of opiates during pregnancy
PAIN IN PREGNANCY

Musculoskeletal

- **Acute**: sciatica, pubic symphysitis
- **Chronic**: back pain, exacerbation of prior injuries

- 2/3 of women complain of low back pain
- 1/5 of women complain of pelvic pain
2013 Cochrane Review
• 26 trials (n=4093 pregnant women)
• Low to moderate quality evidence
• Treatment of lumbar, lumbopelvic and pelvic pain
  • Acupuncture
  • Physical therapy
  • Exercise (strength, stability or water)
  • Osteopathic manipulation
  • Support belt
Address psychosocial contributors to pain:

* Psychiatric conditions
* Social stressors
* Intimate partner violence
**NON-OPIOID PHARMACOTHERAPY**

**NSAIDs: Category C or D**
- First trimester use: not strongly associated with anomalies
- Long-term use contraindicated: *oligohydramnios*, childhood asthma?
- Use > 30 weeks: **premature closure of fetal ductus arteriosus**
- Short course (<48 hr) NSAIDs may be used for uterine tocolysis, surgical or musculoskeletal pain

**Tylenol: Category B**
- Fetal toxicity in maternal overdose
- Recent studies show association with childhood asthma, ADHD and potentially autism
High rates of opioid prescriptions in reproductive age women *preconception and during pregnancy*

Reproductive age women (age 15-44)
39% of women with Medicaid versus 28% with private insurance filled an opioid prescription every year.

Pregnant women
21% of pregnant women with Medicaid versus 14% with private insurance filled an opioid prescription.

Nearly 4-fold increase in rates of opioid prescriptions to pregnant women during 2000-2009.

Ailes et al. MMWR 2015.
Bateman et al. Anesthesiology 2014
Patrick et al. JAMA 2012.
Physiologic changes during pregnancy:
- Increased volume of distribution
- Change in protein binding
- Increased hepatic metabolism
- Increased renal clearance

For chronic opioid users (including long acting and methadone), may require INCREASE in dose and/or frequency (daily → BID)

Anesthesia may be more complicated in labor or postpartum (especially after cesarean section)
Opioids are known to cross the placenta
Several recent epidemiologic studies demonstrate increase risk of neural tube, abdominal wall and cardiac defects
Baseline risk of congenital anomalies is 2-3%

“No clear pattern of teratogenicity with opioids during the first trimester”

ACOG Committee Opinion #524, May 2012
Association with adverse pregnancy outcomes:

- Preterm delivery, poor fetal growth, stillbirth
- Higher rates of depression, anxiety, and chronic medical conditions
- Increased health care costs

Data may be confounded by:

- Comorbid medical complications, obesity, nutritional and socioeconomic status, alcohol, tobacco and illegal drugs

Fetal effect (at peak methadone level):

- Decreased fetal heart rate variability, lower baseline, fewer accelerations, less motor activity and breathing
- High incidence of non-reactive NSTs

Feeding difficulty in opiate exposed infants

- Altered sucking patterns
- May affect development of brainstem respiratory and swallow centers

Neonatal Abstinence Syndrome (NAS)

- 30-80% of infants exposed to opioids in utero require treatment for NAS (60-90% exposed to methadone)
- Symptoms include: irritability, tremulousness, sweating, nasal stuffiness, poor suckling, diarrhea, vomiting and seizure
- Postnatal Finnegan score grades the degree of psychomotor irritability, vasomotor and gastrointestinal disturbances
Infant Hospitalizations for Neonatal Abstinence Syndrome in Washington State 1990-2013

Source: Inpatient Hospital Discharge & Birth Certificate Data, NAS= ICD diagnosis code of 779.5
Timing of NAS

- Short acting opiates have earlier onset of NAS symptoms than methadone or long-acting opiates
- Can occur from the first 24 hours to day 14 of life
- Usually within first 72 hours

Maternal dose and NAS

- Neither the incidence or severity of NAS directly correlate with maternal methadone dose
- Buprenorphine is associated with a lower incidence and shorter duration of NAS

American Academy of Pediatrics supports breastfeeding in patients on methadone (no dose limitation)

- Infants receive 2-3% of weight adjusted maternal dose via breast milk
- Breastfeeding may reduce the severity of NAS and shorten length of hospital stay
- Short acting opiates commonly prescribed after cesarean section without concern for lactation
**Rationale:**

- Minimize maternal/fetal opiate exposure
- Lower risk of overdose and diversion
- Decrease risk of teratogenicity/in utero effect
- Decrease risk of neonatal abstinence syndrome
Opiate withdrawal/detoxification in pregnancy

- Associated with preterm labor and/or fetal distress, meconium, stillbirth, elevated amniotic fluid epinephrine and norepinephrine
- Reports of miscarriage during first trimester
- Concern for recividism (illegal opioids)
- Use of nalaxone, an opioid antagonist, contraindicated in pregnancy unless maternal overdose (includes buprenorphine-naloxone)
EVIDENCE IN SUPPORT OF DETOXIFICATION

Inpatient detoxification experience:

Taper by <20% of stable dose every 3 days

• Dashe 1998: 59% successful detox, no increase in complications
• Luty 2003: 21 day program, no second trimester loss or increase in PTB
• Stewart, 2013: 56% successful detox, no increase in complications

• Ideal to avoid opioid use *pre-conception*

• *Avoid initiation* of opioids during pregnancy to minimize fetal risks and neonatal complications

• Initiation of opioids during pregnancy requires *counseling* and documentation

• *Anesthesia* and *Inpatient Pediatric* consult should be considered for women on chronic opioids prior to delivery

• Controversy exists regarding *safety of outpatient opiate detoxification*
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QUESTIONS?

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