Care of the Opiate Exposed Newborn and Family

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- Practice Gap: Need for increased education regarding management of Neonatal Abstinence Syndrome
- Desired Outcome: Increased awareness and understanding of NAS
- Disclosures: I have no financial relationships with commercial entities producing healthcare related products and/or services

Yes, we are seeing more exposed babies

- Drug exposure and neonatal abstinence syndrome rates increased significantly between 2000 and 2008.
- The proportion of neonatal abstinence syndrome-diagnosed neonates exposed prenatally to opioids increased from 26.4% in 2000 to 41.7% in 2008.
- Compared with unexposed neonates, drug-exposed and neonatal abstinence syndrome-diagnosed neonates had a lower mean birth weight, longer birth hospitalization, were more likely to be born preterm, experience feeding problems, and have respiratory conditions.

(Creanga et al, 2012)

The reality: Poly drug exposure

- Makes evaluation of symptoms very difficult
  - > Effect of one drug may mask or delay the effects of another drug
  - > Benzodiazepines appear to worsen withdrawal

Key point: if opiates are a part of the history, always treat for opiate withdrawal and provide supportive care as necessary

- 32% of IUDE is polydrug (NIH 2000)
- Narcotics + Cocaine = enhanced analgesia
- Nicotine + Cocaine = both constrict blood vessels
- *Strong link* between cigarette and alcohol use and illegal drug use

???Fetal/neonatal effects???

History, history, history

- Review maternal history when mother arrives on L&D
- Obtain permission to do urine drug screen on mother , urine and meconium screening on baby.
- *Marijuana stays in the body for 3-5 weeks after use
  *Most other substances show up in the urine for 48-72 hours after last use

Drug testing

- Obtain permission to send urine and meconium on the baby
  - > Methadone will be included in the routine urine drug panels in near future
- If unsure about sending the meconium, please save the specimen until a PCP makes the decision about screening.
  - > Do not throw away the premier specimen!
  - > Meconium can provide drug use information from about the 20th week of pregnancy

The proof is in the poop…

Opiates: Heroin, Methadone, Narcotics

- Infants are opioid dependent- NOT ADDICTED
- Symptoms increase 24 – 72 hours after birth/last maternal use.
- AAP recommends 5-7 day in hospital observation of these infants.
- Therapeutic withdrawal with oral morphine may be needed
- Severity of withdrawal is not predictable based on maternal "dose"
- However: methadone withdrawal seems to be more difficult and prolonged than heroin withdrawal (long t ½ for methadone, more consistent dosing)
- New study showing relationship of maternal smoking—increases length and severity of opiate withdrawal (Jones, HE, 2013)

- Dose matters not!

Subutex (Buprenorphine)

- Opioid partial agonist-antagonist
  - > Prevents withdrawal symptoms when someone stops taking opioid drugs by producing similar effects
  - > Blocks effects of other narcotics if used
  - > Sublingual tablet once a day
- Beginning to be used more in pregnancy
- Later symptom onset: 48 hours (range 24-168 hours)
- Recent study: reduced length of treatment (45 days vs. 28 days) and lower overall morphine dose (Colombini et al, 2008)
- Have had 18 subutex/suboxone- exposed babies at Emanuel:
  - > fewer required therapeutic withdrawal
  - > those treated needed less medication
  - > had shorter hospital stays than methadone exposed infants

Symptoms of opiate withdrawal

- High pitched cry
- Tremors*****(the hallmark of opiate withdrawal)
- Increased muscle tone (even in the jaw- uncoordinated suck/ biting the nipple)
- Increased HR and RR
- Inability to sleep
- Sensitivity to stimuli
- Disorganized and frantic suck
- Abdominal cramps
- Loose stools
- Bloody diarrhea
- Sneezing, yawning (signs of overstimulation)
- Sweating

Physiologic Links: GI Symptoms and NAS

- Opioid receptors (mu receptors) are concentrated in the CNS and the gastrointestinal tract
- Predominant signs and symptoms of pure opioid withdrawal reflect CNS irritability, autonomic over-reactivity, and GI tract function
- Symptoms of opioid withdrawal impact feeding
- Key point: Excess environmental stimuli and hunger will exacerbate the perceived severity of NAS

NAS Symptoms: Gastrointestinal Dysfunction

- Watery stools, explosive diarrhea, excoriated buttocks, pain cycle
- Modest diarrhea can lead to poor weight gain
- Severe dehydration can lead to FTT
- Gas – more than 3 hours at a time, cyclic in nature
- Traces of blood in the stool
- Key Point: Distress and high stimulation can increase GI problems

Finnegan score

- Objective tool developed in the 70's by Loretta Finnegan, a neonatologist from Tennessee
- Tool created (and validated for) opiate withdrawal
  - > NOT for cocaine, methamphetamine, alcohol, benzodiazepines
- It is an objective tool, but scores can be swayed by caregiver assessment…objectivity and consistency is key
- Start early
- Score every 2-4 hours
- Score over the entire time interval since last scored (ask parents about sleep/sneezing/etc)

How would you score this baby's tone?

Hint: no head lag, arms cannot be extended

Guidelines for pharmacologic treatment:

- Goals of treatment: Keep the baby as comfortable as possible, prevent seizures
- Consider treatment with 3 scores ≥ 10, and/or inability to console the baby
- Oral morphine: Start at 0.04 mg/kg/dose of 0.4 mg/mL concentration q4h PO (with closest feeding)
  - > Adjust as needed to provide relief/scores <10
- Peak dose in Emanuel experience = 0.18 mg/kg/dose
- Key point: it takes as much morphine as it takes, and it takes as long as it takes to get the baby ready for discharge. Wean slowly as tolerated. Phenobarbital may be added as adjunctive therapy.
- Average length of stay is about 18 days
  - > Longest: about 6 weeks

Therapeutic handling

- Lower the stimuli
- Swaddle
- The "C" position
- Skin care- especially the diaper area- see skin care specifics in guideline
  - > Start barrier cream before the first loose stool burns the skin
  - > Use liberally & wipe off a layer of barrier cream, don't wipe the skin
  - > Consider wound/ostomy nurse consultation for severe cases
- Prevent crying jags
- Tummy time

Nutritional needs

- Increased caloric need
- Hypermotile gut
- Poor nippling/uncoordinated suck
  - > Gavage PRN
- May require 150-170 kcal/kg/day (sometimes even more!) to grow
- Okay to breastfeed if mom is on any dose of methadone (ONLY)
  - > Methadone does pass through the milk and may help minimize withdrawal symptoms

Neurodevelopmental care

- OT/PT consult and treatment as part of routine care
  - > Provide coordination of care for: feeding techniques, massage, calming techniques, family education
- Recommend neurodevelopmental follow-up at 4 months of age for any infant undergoing therapeutic withdrawal
  - > Case manager involvement may be helpful

Infant behavioral needs

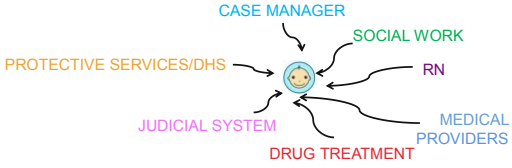
- Safe, nurturing environment
- Adequate nutrition
- Consistent caregivers
- Adequate pain relief
- Individualized care
- Early identification and intervention for developmental delays
- Support for mother

Parent care considerations

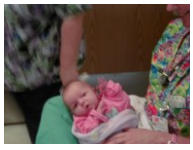
- Lots of education needed for these families:
  - > Ideal: prenatal consult for anticipatory guidance
  - > Early Social Work consult, frequent family/staff meetings
  - > DHS involvement-will baby be going home with someone other than mom…family situation, foster care?
  - > Documentation of parent visits: written descriptive notes, please!!! *this may seem like busy work, but is critical in providing necessary information for DHS…verbatim quotes (both good and not so good) can be helpful
  - > Be honest and direct with parents-they can be masters at manipulating one staff member against another
  - > Encourage infant CPR class for parents

Multidisciplinary approach: it takes a village

- Oregon and Washington have drug treatment programs specifically targeted to pregnant women
- 15 states consider substance abuse during pregnancy to be child abuse under civil child-welfare statutes, and 3 consider it grounds for civil commitment…not OR or WA
- Open communication with parents



Almost ready for discharge…3 weeks down the road



Another satisfied customer ☺

Life isn't always a bed of roses…

…but you can make a difference ☺

Thank you!

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