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Intrapartum Care of the Opiate Dependent Woman And her Newborn

It is important that labor and delivery nurses are able to recognize and treat a patient under the influence of drugs, a patient withdrawing from drugs and those that are receiving treatment for drug dependence. The regularity of substance misuse among women is similar among different cultural and racial groups and is equally distributed among rural, suburban and urban areas (Goodman & Wolff, 2008). Substances that are commonly used include cocaine, amphetamines, opioids, alcohol, marijuana and tobacco. Polysubstance abuse is also common. Urine drug tests may not detect intermittent drug use and do not routinely test for alcohol, the most commonly abused substance next to tobacco (Goodman & Wolff, 2008). Each of these drugs has negative effects on the pregnancy and the developing fetus. Complications include: miscarriage, preterm labor and delivery, low birth weight, IUGR, placental insufficiency, placental abruption, fetal distress, meconium stained fluid and stillbirth. If a patient comes to the unit displaying unusual behavior, agitation, dilated or constricted pupils, hypertension or hypotension, bradycardia or tachycardia, increased or decreased respirations or altered reflexes there should be further testing to rule out drug use as well as pregnancy complications like preeclampsia. This newsletter will discuss pharmacological treatments, pain relief options during labor, post-partum and the care of the newborn for those women who are experiencing dependence to illicit or prescribed opiates.

Table 1: Substance Dependence

Includes the development of at least three of the following:

1. Loss of control over the amount or duration of use
2. Unsuccessful attempts to control use
3. Change in usual activities as a result of use
4. Continued use despite knowledge that physical or psychological harm will result
5. Development of tolerance, necessitating larger amounts of the substance
6. Development of withdrawal symptoms when abstaining

(Goodman & Wolff, 2008)

Heroin is the most commonly used illicit opiate. It can be injected, smoked or inhaled nasally. It crosses the placenta readily and has effects on the fetus within one hour after use (Keegan et al, 2010). Heroin has a short half-life and the user may need to take multiple doses daily to maintain the drug's effects. Prescribed opioids, whose use may lead to dependence, include codeine, fentanyl, morphine, opium, oxycodone, meperidine, hydromorphone, hydrocodone, methadone and buprenorphine. These substances can be used in a variety of ways: swallowing, smoking, inhaling, injecting, chewing or used as suppositories (ACOG, 2010). When a pregnant woman has an opiate dependence the current standard of care is to transition to opiate maintenance therapy using methadone with buprenorphine as a second option (Goodman & Wolff, 2008)

Methadone is a synthetic opioid that can be taken orally; it prevents the onset of withdrawal symptoms, eliminates drug cravings and blocks the euphoric effects of misused opiates. By maintaining a consistent maternal opiate level, methadone also protects the fetus from repeated episodes of withdrawal. Methadone dosages are usually started at 10-30 mg/day and are prescribed and dispensed by a registered substance abuse treatment program (ACOG, 2012). Dosages are adjusted throughout the pregnancy to avoid maternal and fetal withdrawal and are continued during labor and postpartum. Methadone has not been associated with any major maternal adverse effect but, methadone and opiate exposed newborns are predisposed to neonatal abstinence syndrome (NAS) that may require pharmacological therapy.

Buprenorphine, when prescribed by accredited providers, is the only opioid approved for the treatment of opioid dependence in the office-based setting. Buprenorphine acts on the same receptors as heroin and morphine. It is available as a single-agent product or in a combined formulation with naloxone. The single-agent product is recommended during pregnancy to avoid exposing the fetus to naloxone. There are limited studies on the use of buprenorphine in pregnancy and the effects on the newborn. However, buprenorphine exposed newborns are quicker to recover from neonatal abstinence syndrome, requiring a shorter duration of treatment, less oral morphine to treat symptoms, and have shorter length of stay in the hospital (Maguire, 2014).

Intrapartum, Post-Partum Care and Newborn Care

The maintenance dose of methadone and buprenorphine do not provide analgesia or euphoria; they prevent opiate cravings. Therefore these women should receive the same options for pain relief as any other woman in labor. However Nubain (nalbuphine) and Stadol (butorphanol) should be avoided because they will cause acute withdrawal symptoms. Narcan (naloxone) should also be avoided for the same reason except for cases of opioid overdose. Morphine, Demerol and Fentanyl should be offered as well as epidural or spinal analgesia (Goff & O'Connor, 2007 and ACOG, 2012). During the post-partum period, patients undergoing opioid maintenance treatment will require higher doses of opioids to achieve analgesia than other patients. For vaginal and post cesarean section deliveries, relief can be achieved with short acting opioids and IV non-steroidal antiinflammatory agents like Ketorolac (Toradol). Careful monitoring for over sedation should be done for those patients who receive opiates for pain relief.

The pediatric staff should be notified of all narcotic-exposed infants. Methadone has a long half-life and therefore signs of neonatal abstinence syndrome (NAS) may not occur

for several days or more after birth. It is likely that these infants will require monitoring for 4-7 days after birth. NAS is characterized by hyperactivity of the central and autonomic nervous systems and is seen in 55-94% of drug exposed newborns. Symptoms include irritability, poor sleep, tremors, hypertonia, frantic and uncoordinated sucking, sneezing, emesis, diarrhea, tachypnea, temperature instability and nasal stuffiness (Hudak & Tan, 2012). These newborns can also suffer from electrolyte imbalances, excessive hunger, disturbed sleep and poor tolerance to environmental changes (Goff & O'Connor, 2007). Providers determine interventions for the newborn using the Finnegan Neonatal Abstinence Scoring Tool which allows objective assessment of withdrawal signs and symptoms in the newborn. The Finnegan score is a list of 21 signs and symptoms of withdrawal and is scored at 2 hours after birth and every 3-4 hours. If newborns receive a score > 8 on three consecutive scores, pharmacological therapy is initiated; generally morphine is used to help ease the withdrawal symptoms.

If the mother retains custody of her newborn, she should be educated about the ways to comfort the child that might be irritable and inconsolable. Mothers can also be encouraged to learn the signs of NAS. Using the Finnegan scoring tool may be an effective educational tool. Regardless of whether or not the newborn needs pharmacological therapy for NAS, all drug-exposed newborns should receive nonpharmacologic support. This type of support should be taught to the parents or appointed caregivers (See Table 2). The American Academy of Pediatrics, the American College of Obstetricians and Gynecologists and the Academy of Breastfeeding Medicine all agree that if the mother is stable on her methadone or buprenorphine maintenance therapy and is HIV negative, that she should be encouraged to breastfeed. Methadone and buprenorphine levels found in breast milk are relatively small. Breastfeeding encourages these mothers to take an active role in comforting their infant and lessen the severity of NAS.

Table 2: Non Pharmacological Care of a Newborn with NAS

Therapeutic handling	<ul style="list-style-type: none"> • Swaddling or wrapping helps to control movements and provides comfort • Holding or lying in the “C” position increases the newborn’s ability to relax. • Skin to skin contact
Movement	<ul style="list-style-type: none"> • Slow and rhythmic swaying • Approach the newborn slowly and in a calm fashion
Feeding	<ul style="list-style-type: none"> • Feed on demand • Breastfeeding or pumping • May require supplementation due to unorganized suck
Environment	<ul style="list-style-type: none"> • Quiet environment with dim lights, soft voices • Tactile, visual and auditory stimuli should be introduced slowly

Finnegan Scoring System

System	Symptoms	Points	Score		
Central Nervous System	Excessive high pitched (or other) cry (< 5 min)	2			
	Continuous high pitched (or other) cry (> 5 min)	3			
	Sleep < 1 hour after feeding	3			
	Sleep < 2 hours after feeding	2			
	Sleep < 3 hours after feeding	1			
	Hyperactive Moro reflex	2			
	Moderately hyperactive Moro reflex	3			
	Mild tremors when disturbed	1			
	Moderate-severe tremors when disturbed	2			
	Mild tremors when undisturbed	3			
	Moderate-severe tremors when undisturbed	4			
Increased muscle tone	1				
Excoriation (eg. Chin, knees, elbows, toes, nose)	1				
Myclonic jerks (twitching/jerking of limbs)	3				
Generalized convulsions	5				
Metabolism Vasomotor Respiratory	Sweating	1			
	Hyperthermia (37.2 – 38.2°C)	1			
	Hyperthermia (≥ 38.4°C)	2			
	Frequent yawning (>3-4/interval)	1			
	Molting	1			
	Nasal stuffiness	1			
	Frequent sneezing (> 3-4/interval)	1			
	Nasal flaring	2			
Respiratory rate > 60/min	1				
Respiratory rate > 60/min with retractions	2				
Gastro-intestinal	Excessive sucking	1			
	Poor feeding (infrequent/uncoordinated suck)	2			
	Regurgitation (≥2 times during/past feed)	2			
	Projectile vomiting	3			
	Loose stool	2			
Watery stool	3				
	TOTAL SCORE				

References

The American College of Obstetricians and Gynecologist (2012). Committee opinion # 524. Opioid abuse, dependence and addiction in pregnancy. *Obstetrics and Gynecology* 119(5), 1070-1076.

Goff, M. & O'Connor, M. (2007). Perinatal care of women maintained on methadone. *Journal of Midwifery and Women's Health*, 52(3), 23-26

Goodman, D. & Wolff, K. (2013). Screening for substance abuse in women's health: a public health imperative. *Journal of Midwifery and Women's Health*, 58(3), 278-287.

Hudak, M & Tan, R. (2012). Neonatal drug withdrawal. *Journal of the American Academy of Pediatrics*, 12, 540-560.

Keegan, J., Parva, M., Finnegan, M., Gerson, A., & Belden, M., (2010). Addiction in pregnancy. *Journal of Addictive Diseases* 29(2), 175-191.

Maguire, D., (2014). Drug addiction in pregnancy: Disease not moral failure. *Neonatal Network*, 33(1), 11-16.

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