10/17/18 njm

Medication-assisted opioid addiction treatments: OB/GYN

In October 2002, the Food and Drug Administration (FDA) approved buprenorphine monotherapy product, Subutex®, and a buprenorphine/naloxone combination product, Suboxone®, for use in opioid addiction treatment. The combination product is designed to decrease the potential for abuse by injection. Subutex® and Suboxone® are currently the only Schedule III, IV, or V medications to have received FDA approval for this indication.

Background

Buprenorphine is a semi-synthetic opiate that was originally developed for pain control. It is currently used to treat opiate-addiction long-term. Buprenorphine is prescribed in two formulations: Subutex is buprenorphine alone, and Suboxone is Buprenorphine plus Naloxone. Suboxone is available in the sub-lingual film form and Subutex in the sub-lingual tablet form.

Buprenorphine and buprenorphine plus naloxone can only be prescribed by certified and trained practitioners in the outpatient setting with an 'X' designation on their DEA licenses. The DEA audits prescriptions for Buprenorphine and Buprenorphine plus naloxone. Inpatient providers can prescribe the medication while the customer/owner is admitted, but not as outpatients.

Subutex is preferentially used in the obstetric population. There is low placental transfer and withdrawal in babies is less likely than other opiates. Neonatal withdrawal may be seen in 1-8 days after birth, but usually within the first few days.

Pharmacology

There is some disagreement over how Buprenorphine works, but it appears to bind to mu, kappa, and delta opiate receptors and has a very long affinity and slow dissociation, thereby blocking other opiates from these receptors. (mu, kappa, and delta receptors all have analgesic effects, physical dependence potential, and different side effects; mu receptors seem to be associated with respiratory depression. Buprenorphine may have an antagonistic effect on kappa receptors). When used chronically, it can be dosed every 24-48 hours, but its pain control only lasts 4-6 hours. Even though side effects can occur, they are usually decreased compared to morphine. (Vadivelu, N, 2010)

Management

Acute pain management

When Buprenorphine is used chronically for drug addiction by binding to opiate receptors, it is a challenge to control acute pain exacerbations, such as in labor and delivery, or surgery. There is no consensus as to handle this situation, but a few options have been discussed:

1. Stop Buprenorphine and change to methadone or oxycodone a few days prior to any procedure or labor. (Alford 2006) This is the preferred method by the ANMC Anesthesia team. This may precipitate withdrawal in pregnancy, and labor is unpredictable, especially for our

customer/owners coming from outside of Anchorage, and we cannot monitor their situation, or prescribe their chronic medications.

2. Continue Buprenorphine at pre-operative doses and add other opiates such as morphine or fentanyl for post-op pain, realizing that higher doses will be required because of Buprenorphine's attachment to the pain receptors, and monitor carefully for respiratory depression. (Roberts 2004.) This may make it more difficult to manage general anesthesia and is not preferred by the ANMC Anesthesia team.
3. Continue Buprenorphine at increased doses post-operatively. Estimates are that this will be effective about 80 % of the time in the post-operative period. (Budd 2003.) Onset of pain relief is 15-45 minutes with sublingual Buprenorphine.

Pre-operative

1) Pre-operative counseling and education are keys to providing adequate pain management during labor and after surgery. Customer/owner and provider expectations should be discussed and options presented prior to the procedure if possible to avoid confusion and dissatisfaction. Ideally the plan of care will be discussed with the patient's prescribing physician and a plan developed.
2) Remember that the higher the dose of Buprenorphine, the greater the number of receptors that are blocked, and the higher the dose of other opiate requirement will be for analgesia. (Buprenorphine 2 mg blocks 30-45 % of mu receptors, 8 mg binds 60-75% of the receptors, and 16 mg. binds 90% of the receptors). Side effects such as respiratory depression are possible though rare, at the higher doses.
3) The over-riding principle of using Buprenorphine and/or other opiates is to meet the customer-owner's underlying opiate needs first, in order to prevent withdrawal, THEN add on additional pain medication.

Post-operative care:

1) Give the maintenance dose of Buprenorphine sublingually, broken up in to tid dosing (ie, if the customer owner is on 12 mg a day, she should be ordered 4 mg sl tid)
2) If she is on 1-8 mg. of Buprenorphine chronically, give an additional 4 mg. SL followed by 2 mg. SL q 1hour prn (hold if overly sedated).
3) If taking >8 mg daily, give an additional 8 ml SL then 4 mg SL q 1 hour prn (hold if overly sedated).
4) Other pain medications can be used as usual, such as NSAIDS, gabapentin, or regional blocks.
5) If pain is at level 6 or above after dosing with Buprenorphine, contact Pharmacy for fentanyl dosing for breakthrough pain
6) If pain control medications are needed after discharge, contact the patient's prescribing physician for Buprenorphine and discuss how you would expect the additional pain meds to be needed. For customer owners from places outside Anchorage, their prescribing provider should be contacted for long-term management. (When possible, contact these providers before the surgery to expedite discharge planning)

Pregnancy

1) Third trimester visit with OB/Gyn MD to discuss expectations and pain management in labor or after cesarean
2) Add this issue to the Problem List so there are no "surprises" for the providers on Labor and Delivery
3) If there are signs of withdrawal during pregnancy, consider admission for control and management with Buprenorphine or other narcotics
4) Alert the prescribing physician that the patient is going to be admitted, to coordinate discharge planning and medication prescriptions.
5) Alert Pediatrics when the patient is admitted for labor or cesarean delivery

Pain management during labor:

1) Epidural if possible/desired
2) Whatever the situation, always give the maintenance dose of Buprenorphine to prevent withdrawal symptoms during labor
3) If the customer/owner's usual dose is 1-8 mg a day, give additional Buprenorphine 4 mg SL x 1 followed by 1-2 mg q 1 hour. A rough estimate of the comparison between fentanyl and Buprenorphine is that 100 mcg Fentanyl is equivalent to 2-4 mg Buprenorphine.
4) If the customer/owner's usual dose is > 8 mg a day, give an additional 8 mg Buprenorphine SL, followed by 2-4 mg SL q 1 hour.
5) If pain control is inadequate, contact the pharmacy to determine the appropriate fentanyl dose using the above relative equivalency.

Resources

See Appendix

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Revised 10/17/18njm
Revised 5/16/16se
Approved 3/19/14se

- **Narcotic Drug Treatment Center (AKA Center for Drug Problems)**
  520 East 4th Avenue
  Anchorage, Alaska 99504-2624
  907-276-6430
  Primary Focus: Substance abuse treatment services
  Service Provided: Substance abuse, Detoxification, Methadone Maintenance, Methadone Detoxification
  Type of care: Outpatient (includes required groups and 1:1 sessions, offer therapy for dual diagnosis, groups are run by therapists, substance abuse counselors, and nurses and are a variety of topics).
  Special Programs/Groups: Persons with co-occurring mental and substance abuse disorders, Persons with HIV/AIDS, Pregnant/postpartum women, Women, Men Criminal justice clients
  Forms of Payment Accepted: Self payment, Medicaid, State financed insurance (other than Medicaid), Private health insurance, Military insurance (e.g., TA, TRICARE)
  Payment Assistance: Sliding fee scale (fee is based on income and other factors), Payment Assistance

- **Anchorage Treatment Solutions (part of CRC Healthcare Group)**
  121 West Fireweed Lane
  Anchorage, Alaska 99503
  907-865-9653 (or 877-637-6237 national number)
  Hours of Operation: 5:30-11:30 am M-F, 6:30am-9:30 am Sat, closed on Sunday
  Primary Focus: Substance abuse treatment services
  Services Provided: Medically supervised methadone and Suboxone maintenance treatment
  Type of care: Outpatient (groups & 1:1 sessions are required)
  Special Populations/Programs/Groups: Pregnant Women
  Forms of Payment Accepted: Private Insurance, self-payment (cost is $480/month, and require purchasing a lock box for taking home Sunday dose)
  Payment Assistance: None

- **AA Spine& Pain Clinic**
  4100 Lake Otis Parkway
  Suite 208 & 216
  Anchorage, Alaska 99508
  (907)563-2873
  Primary Focus: Pain management

Service Provided: Suboxone for opiate dependence; psychological support
Type of Care: Outpatient
Special Programs/Groups: None
Forms of Payment Accepted: Medicaid, Private Insurance, Self-Pay
Payment Assistance: None