Intraoperative Use of I.V. Methadone

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Methadone is a potent opioid analgesic with complex pharmacokinetic and pharmacodynamic properties. Perioperative i.v. administration of methadone has the potential for a prolonged duration of effect (both analgesic and side effects) up to 24 hr. Cautious administration of methadone is recommended in opioid naive patients and in outpatients, and particularly in patients receiving additional parenteral or neuraxial opioids as the interaction of methadone in these patients is currently unknown.

The administration of i.v. methadone in the Operating Room may be useful for postoperative pain control. There are two potential clinical situations whereby i.v. methadone may be administered perioperatively:

1. I.V. methadone is the sole intended postoperative analgesic:
   a. In all situations where i.v. methadone has been administered intraoperatively or postoperatively in PACU, the attending anesthesiologist must communicate with the surgical team and PACU nursing staff and document in the anesthesia or medical record the amount of drug administered and the reason for the use of drug.
   b. Although special monitoring is not recommended at this time in this category, unexpected and persistent sedation is concerning and will require involvement of APS to determine monitoring level and further care.

2. I.V. methadone is used in addition to other analgesic modalities (e.g., PCA):
   a. The attending anesthesiologist must communicate directly with APS attending prior to i.v. methadone use.
   b. The attending surgeon and PACU nursing staff must be informed of the decision to administer methadone.
   c. The amount of drug administered and the reason for the use of the drug must be documented in either the anesthesia record or the medical chart.
   d. Postoperative monitoring of patients who have received methadone will typically be dictated by the patient’s response to methadone or other opioids administered. For example, active IVDA patients who have received methadone and PCA and are not sedated may be monitored at
level 1 standards, while opioid resistant patients are monitored at level 2 or 3.

e. Postoperative special monitoring (Level 2 or 3) of the patient will be at the discretion of APS attending

For most clinical scenarios, APS attending will apply the following guidelines:
1. Routine administration of methadone is not recommended for patients who will continue on i.v. opioids by PCA or who receive neuraxial opioids
2. **Special Patient populations:** Consider methadone administration as routine, Level 1 monitoring standards will apply unless there is evidence of progressive sedation:
   a. **Active IVDA**
      i. Give i.v. loading dose = 10-30 mg preoperatively or postoperatively in PACU, as tolerated
      ii. History of previous methadone program = check previous PO doses used and give PO once oral intake resumed as a single or twice daily dosage. Dose range usually = 60-120 mg PO per day.
   b. Preoperative methadone use (irrespective of dosage):
      i. Replace preoperative dose by appropriate i.v. dose or by PO
3. **Special Opioid requirements:** Level 2 or Level 3 monitoring required:
   a. Opioid resistant patients who require ongoing opioid use and are not candidates for supplemental regional anesthesia
      i. Trial of i.v. methadone 10-30 mg, as tolerated, in addition to PCA

**Level 1 Monitoring on Nursing Unit:**
1. Monitoring standards for primary analgesic modality will apply. For example, if PCA opioids are ordered, PCA monitoring standards will be followed. Respiratory rate and sedation scale will be monitored q 2hr for 8 hr and then q 4hr while on PCA.

**Level 2 Monitoring on Nursing Unit:**
1. First 24 hr: monitor respiratory rate and sedation scale q 1 hr
2. After 24 hr: monitor respiratory rate and sedation scale q 4 hr while on PCA
3. 1st postoperative night: 1st 12 hours or from 22:00-06:00
   a. Pulse oximetry
   b. Nasal O₂ @ 2 l/min
4. Patient should be placed in close proximity to nursing station

**Level 3 Monitoring (1:1 observation):**
1. Generally 1:1 observation cannot be continued for prolonged periods on a Nursing Unit. In some situations, transfer to an ICU setting for continuous monitoring is appropriate.
2. Persistent severe, difficult to control pain with increasing PCA use that requires frequent nurse-administered boluses
3. Sedation Scale = 2 within 24 hours of i.v. methadone administration
4. At discretion of APS attending