Bradford Teaching Hospitals NHS
NHS Foundation Trust

Remifentanil PCAS for Analgesia in Labour

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Minor change to monitoring chart 22.8.17

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Version: 3

Attachments

Remifentanil PCAS in Labour - Patient Infor

Remifentanil PCAS Monitoring Chart 201

Please note - the patient leaflet has yet to go through the relevant group.

Introduction

Remifentanil is a short acting opioid analgesic drug. It appears to provide effective, if not complete, labour analgesia. Following intravenous administration via a patient controlled analgesia (PCA) pump it acts within 1-2 minutes. In common with other opioids (e.g. intramuscular pethidine), it may cause maternal sedation, respiratory depression, pruritus and nausea and vomiting. Remifentanil freely crosses the placenta, but has no clinically significant neonatal depressant effects at doses commonly used. Its use in labour is widespread but unlicensed. It appears to be safe for use in labouring mothers provided appropriate monitoring is used.

Indications

There are very few specific indications for Remifentanil PCA. Its use should be considered when

- Epidural analgesia is contraindicated , ineffective or not wanted
- Pethidine is ineffective

The mother should be more than 37 weeks gestation and in established labour. If remifentanil is being considered for use at a gestation of less than 37 weeks a senior obstetrician must document in the clinical notes either the non-viable status of the fetus or specify the reason for allowing the use of remifentanil in that case.

Contraindications

- Allergy to remifentanil or other strong opioid drugs
- IM opioid administration in the preceding 4 hours
- Lack of availability of one-to-one midwifery care
- Severe heart or chest disease needs careful evaluation by a senior anaesthetist before considering use of remifentanil

Procedure for use

- Discuss with the mother the benefits and likely side effects of remifentanil PCA and provide a Patient Information leaflet for her perusal
- A dedicated IV line **must** be used. A 20G “pink” venflon is ideal. No other drugs or fluids should be given via this IV line
- One to one midwifery care **must** be available. The midwife is the most important safety monitor with this technique and must remain with the mother throughout its use.

- Continuous SpO2 monitoring must be instituted before the Remifentanil PCA is started, and continued for the duration of use
- Draw up remifentanil 4mg into a 100ml bag of 0.9% saline. Connect the bag to the appropriate giving set and place in a CME medical BodyGuard 575 PCAS pump. (solution concentration 40 mcg/ml).
- Select the REMI 40mcg/ml protocol. PCAS settings:
    - Bolus dose - 40 mcg – (1 ml volume)
    - Lockout - 2mins
    - Background - 0

  (Level one access code 982)
- Please enter the patient's RAE number into the pump to electronically record data for future reference.
- Show the mother how to use the PCAS. Suggest that she presses the button as soon as she notices the contraction starting. Stress to the mother that **only she must press the button:** not her partner or any other birth attendants
- If SpO2 falls below 94% and stays at that level for more than 4 seconds give O2 by nasal cannulae at 2 l/min. A fall in SpO2 requiring supplemental oxygen would be expected in approximately 1 in 10 mothers using Remifentanil PCAS.
- Entonox can be used in addition at any time

Reducing Remifentanil bolus dose

- **If the patient is unresponsive to voice or RR falls below 8 when using a 40mcg bolus of remifentanil, and following discussion with the anaesthetist, consideration may be given to reducing the bolus dose of remifentanil to 30mcg.** (Please see sections below on **Monitoring** and **Safety**)
- To use a 30mcg bolus, discard the 4mg/100ml bag and draw up remifentanil 3 mg in 100ml 0.9% saline. Disconnect the giving set from the patient and re-prime the set with the 6ml pre-set volume to remove any residual 40mcg/ml solution. Reconnect the set to the dedicated cannula. Select the REMI 30mcg/ml protocol. The pump will record the change in concentration in the electronic log. Start a new monitoring chart. Please tick the 30 mcg bolus box.

Monitoring

Commence a Remifentanil PCA monitoring chart and record the following every 30 minutes whilst the PCA continues:

- SpO2- should be monitored continuously throughout the use of the Remifentanil PCA
- Respiratory rate
- Pain score:-
    - 0 – no pain
    - 1 – mild pain
    - 2 – moderate pain
    - 3 – severe pain
- Sedation score:-
    - A - Alert
    - V – Responds to voice
    - P – Responds to pain
    - U - Unresponsive

The mother should not be left unattended at any time

Safety

If any of the following occur remove the handset from the mother and contact the anaesthetist immediately:

- **If SpO_2 remains < 90% despite oxygen therapy**
- **Respiratory rate falls below 8**
- **Patient unresponsive to voice (sedation score P or U)**
- **Patient apnoeic – see below**

Apnoea

If there is a period of apnoea lasting > 10 seconds or respiratory rate less than 8 then the patient should be verbally encouraged to breathe and their PCA handset removed. If there is still no respiratory response despite strong verbal encouragement help should be sought (pull emergency buzzer). The patient should be laid flat in full left lateral position and 100% oxygen administered (via a self-inflating bag, valve, facemask until return of spontaneous respiration or by Hudson mask if making respiratory effort) until the arrival of the emergency team (including anaesthetist) to determine optimum airway management.

If there is the need for verbal encouragement to the patient to breathe on more than 2 occasions then the remifentanil PCA must be withheld until the patient has been reviewed by the anaesthetic team. Consideration may then be given to reducing the remifentanil bolus dose to 30mcg or to using alternative methods of pain relief.

Points to improve safety

- Always use a dedicated cannula. (Do not use Y connectors)
- Do not give any other drugs or fluids via the PCA cannula
- Only the patient is to use the PCA button
- The PCA button is not to be pressed by midwifery staff or the patient's relatives
- The PCA can be used during delivery and for the repair of tears and episiotomies
- Remove cannula on completion of the PCA
- **The mother should not be left unattended at any time whilst the Remifentanil PCA is running**.

Discontinuation of Remifentanil PCAS

Disconnect the PCAS from the mother and remove the cannula. **Do Not Flush**.

Audit of Remifentanil PCAS use

Mothers will be followed up the day after delivery, or later the same day if they wish for early discharge, and will be assessed for quality of analgesia and satisfaction with the technique, in line with our routine practice. Records will be kept of side effects.

References

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