Policy and Procedure Manual

Analgesia: Post caesarean birth for women with substance dependence or chronic pain

the women's
the royal women's hospital

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1. Antenatal preparation

Women with a history of significant substance abuse or chronic pain should be referred to the Anaesthetic Antenatal Clinic (AAC) review for discussion of possible future anaesthesia and analgesic options intrapartum and post partum.

Three main groups are identified:

1. Women who are using heroin or other opioids in doses which are not clinically indicated.
2. Women on buprenorphine or methadone pharmacotherapy for narcotic dependency.
3. Women with a history of chronic pain with high analgesic requirements.

These women often have complex combinations of illicit substance abuse and or psychiatric co morbidities that could make discussion in an emergency setting difficult. Discussion relating to venous access is also recommended. Referral to Anaesthetic Antenatal Clinic (AAC) should occur in the third trimester of pregnancy.

For women requiring a caesarean birth there are a range of options for post operative analgesia. Women with a history of chronic pain or regular opioid use or opioid substitution with buprenorphine or methadone, require special consideration when meeting their post operative analgesic requirements.

Buprenorphine is a partial opioid agonist and antagonist. It exerts a degree of blockade on the effects of a full agonist opioid e.g. morphine which may complicate the use of opioids for analgesia postoperatively. It is recommended to treat women on buprenorphine on a case by case basis. Any changes to buprenorphine doses or management should be made only by the Women's Alcohol and Drug Service (WADS) team.

Methadone is a long acting opioid agonist. It is recommended to continue administration at the usual dose. Achieving ideal post-operative pain relief in patients using methadone is a challenge due to their opioid tolerance levels.

As women with substance dependence often require higher doses of opioids post caesarean birth, they are at risk of developing delayed respiratory depression. Therefore the post operative analgesic requirements of women with substance dependence after caesarean birth need to be individualised. A range of medicines are available but individual responses vary.

2. Medicines

2.1 Analgesia: Labour

In the high risk groups identified above, an epidural should be offered for labour analgesia.

2.2 Analgesia: Caesarean birth

2.2.1 Regional analgesia

- For an elective caesarean birth a combined spinal epidural (CSE) technique should be considered to allow the option of epidural analgesia postoperatively. For an emergency caesarean birth, a CSE should be used unless an epidural has already been inserted during labour.
- Patient Controlled Epidural Analgesia (PCEA) to be left insitu if no contraindication on the postnatal wards for up to 3 days. This should be supplemented with Non-Steroidal Anti-Inflammatory Drugs (NSAID) and paracetamol as outlined below.

2.2.2 Non regional analgesia

- If regional anaesthesia is inappropriate or refused, a ketamine infusion should be run intravenously in addition to the multimodal analgesia outlined below. Opioid requirements should be individualised depending upon the factors outlined above.

Ketamine

- 100mg in 50mL Sodium chloride 0.9% (Normal Saline)
  - 0.1 to 0.4mg/kg bolus and then run at 0.1 to 0.4mg/kg/hr in consultation with the Acute Pain Service.

Paracetamol

- administer paracetamol 1g IV strictly 6 hourly (maximum 4g of paracetamol per 24 hours), or orally [if tolerating oral fluids] unless contraindicated.

Non steroidal anti inflammatory drugs (NSAIDs)

- administer diclofenac orally 50mg 8 hourly strictly.

Diclofenac is contraindicated in patients with a history of asthma who are sensitive to NSAIDs (there is a cross sensitivity of 12% of aspirin sensitive asthmatics with NSAIDs), stomach ulcers and renal impairment.

Note: Liver function tests (LFTs) should be taken into consideration when ordering medicines where patients have a history of hepatitis C, of infective hepatitis, chemically induced hepatitis or cholestasis in addition to full blood examination if there is concern of thrombocytopenia for any reason.

Abnormalities in these areas may be important when prescribing medicines and/or considering the use of regional analgesia in such women.

Tramadol (opioid)

- administer IV tramadol as prescribed if pain is not controlled.

Potential side effects:

- respiratory depression
- nausea and vomiting
- constipation
- drowsiness
- confusion

Note: Tramadol needs to be initiated with caution and it may contribute to the serotonin syndrome.

If additional analgesics are required, consult with Acute Pain Service, or Duty Anaesthetist (after hours - contact through the switchboard) prior to prescribing additional opioids due to the risk of respiratory depression.

3. Observations

3.1 Epidural

Observations should be performed and recorded according to the Women's procedure: Epidural Management: Comprising infusion, Patient Controlled Epidural Analgesia (PCEA), and Top-Up

All epidural infusions/PCEA must have hourly pump readings documented for the first 12 hours then two hourly thereafter for the duration of the infusion.

On establishment of epidural block the following observations must be performed:

- five minutely: pulse, blood pressure, respiratory rate for 20 minutes
- dermatome check 30 minutes after establishment of block
- following 'staff administered' epidural boluses, of the Women's protocol: Epidural management (link) (refer to section 8).

3.1.1 Birth Centre

Infusion only

- one hourly: pulse, blood pressure, respiratory rate, sedation score and pain score
- four hourly: dermatome level
- four hourly: motor score (as identified on the form: Adult Analgesic Infusion and Frequent Observation Chart [MR/90353]) and prior to ambulation
- epidural insertion site at least once per shift

PCEA

- all of the above **plus**:
- thirty (30) minutely: blood pressure
- two hourly: chart demands and delivered doses

3.1.2 Post surgical or postnatal wards

Infusion only

- hourly: respiratory rate and sedation score - for 12 hours, then every 2 hours until 6 hours after stopping opioid-containing solution
- two hourly: pain score while awake (with deep cough or moving in bed)
- four hourly: pulse and blood pressure
- dermatome level and site check at least once per shift
- motor score (as identified on the reverse of MR 90353) once per shift, and prior to ambulation.

PCEA

- all of the above plus:
  - four hourly: chart demands and delivered doses

The above observation protocol is documented on the form: Adult Analgesic Infusion and Frequent Observation Chart (MR/90353), where infusions are prescribed and charted.

3.2 Ketamine

Observations should be performed and recorded according to the Women's procedure: Ketamine Infusion and are listed below:

- pump readings (mL/hr) hourly for the first 12 hours then 2 hourly for the duration of the infusion
- respiratory rate and sedation score every hour for first 12 hours, then every 2 hours, until 6 hours after ceasing administration
- pulse and blood pressure every 4 hours
- pain score (with deep cough or moving in bed) every 2 hours while awake
- a patent IV cannula should be maintained for the duration of therapy
- naloxone should be available immediately to treat respiratory depression.

3.3 Sedation score

Score	Sedation status
0	Awake, alert
1	Mild sedation easy to rouse
1S	Asleep
2	Moderate sedations, easy to rouse but unable to stay awake
3	Difficult to rouse, unable to stay awake

Clinical indications for continuous measurement of oxygen saturation (SpO2) via pulse oximetry:

- sedation score of 3
- significant cardiorespiratory impairment
- sleep apnoea, snoring or airway obstruction
- spot oximetry reading of less than 94%

Clinical Indications for initiating measurement of oxygen saturation (SpO2) via pulse oximetry:

- respiratory distress
- pallor or cyanosis
- confusion or agitation
- hypotension
- sedation score of 2
- nurse concern

The anaesthetic registrar must be contacted in the above instances and will decide whether the patient can be nursed on the ward or require admission to the Complex Care Unit.

3.4 Breastfeeding post caesarean birth: Caution

Midwives need to remain aware of the risks of drowsiness for the mother especially in the first 24 hours Refer to the Women's (intranet-only) guideline: Co Bedding unsettled Infants with Mothers in the Postnatal Wards.

As with the co bedding guideline, the midwife must:

1. Conduct a full assessment of the mother's level of consciousness and safety for each breastfeed.

2. Advise the mother not to breastfeed her baby without a midwife in attendance if:
   - she is tired to a point where she would find it difficult to respond to her baby
   - she has any condition which affects consciousness e.g. large blood loss, epilepsy, high temperature, drug use.

3. Ensure that the bed is lowered to its minimal height.

4. Help the mother position the infant.

5. Check on the mother and baby during the progression of the feed. Ask the mother to use call bell for assistance during the breastfeed.

6. Ensure that the call bell is within the mother's reach.

4. Consumer information

The Women's Consumer fact sheets (public website):

- Alcohol & Drugs During Pregnancy
- Methadone

5. Appendices

5.1 Glossary

Anaesthetic Assessment Clinic (AAC)	Patients are assessed for fitness for anaesthesia by experienced anaesthetists. After obtaining general medical history, a full anaesthetic assessment including airway assessment is carried out including a cardiovascular and respiratory examination. Investigations are ordered as required. The clinics have constant access to the expertise of consultant anaesthetists if required. Reference: Hillingdon Hospital NHS Trust, Anaesthetics: Preoperative Assessment Clinic. http://www.thh.nhs.uk/Departments/Anaesthetics/an-preopassess.htm, accessed 26/11/2009
Combined spinal epidural (CSE)	Typically used in patients where the regional anaesthetic may be difficult or conversion to general anaesthetic is undesirable (e.g. morbidly obese), or when a slower titration of anaesthesia is required or prolonged surgery is predicted (e.g. multiple gestation). Reference: The Royal Women's Hospital, Anaesthetics Handbook, March 2009. http://intranet.thewomens.org.au/AnaestheticsHandbook
Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)	Nonsteroidal anti-inflammatory drugs (NSAIDs) have analgesic, antipyretic and anti-inflammatory actions. They inhibit synthesis of prostaglandins by inhibiting cyclo-oxygenase. Cyclo-oxygenase (COX) is present in 2 forms, COX-1 and COX-2. Inhibition of COX-1 is associated with impaired gastric cytoprotection and antiplatelet effects. Inhibition of COX-2 is associated with anti-inflammatory and analgesic action. Reduction in glomerular filtration rate and renal blood flow is associated with both COX-1 and COX-2 inhibition. Most NSAIDs are nonselective, inhibiting both COX-1 and COX-2. Although selective COX-2 inhibitors have little or no effect on COX-1 at therapeutic doses, they are still associated with GI adverse effects. Reference: Australian Medicines Handbook, http://www.amh.net.au/online/view.php. NSAIDs http://www.amh.net.au/online/view.php?page=chapter15/class2nsaids.html
Patient Controlled Epidural Analgesia (PCEA)	A specific device and analgesia regimen, whereby the patient actuates their own epidural analgesia administration (with suitable safeguards). Reference: The Women's Policy and Procedure Manual (intranet-only): Epidural Management: Comprising infusion, PCEA, and Top-Up
Women's Alcohol and Drug Service (WADS)	The Women's Drug and Alcohol Service (WADS) has been operating at the Royal Women's Hospital as a specialist clinic for pregnant women with drug and alcohol issues since 1987. Within the Women's TeamCare model of maternity care, WADS provides a supportive and consultative service for women with substance dependence throughout the continuum of pregnancy and the postnatal period in conjunction with their home team. The Women's Drug and Alcohol Service (WADS) has evolved to become a statewide drug and alcohol service providing clinical services as well as professional support and education programs. Reference: The Royal Women's Hospital. WADS: the Women's Alcohol & Drug Service http://www.thewomens.org.au/AlcoholDrugService

6. References

Australian & New Zealand College of Anaesthetists and Faculty of Pain Medicine, Acute Pain Management: Scientific Evidence, 2nd ed. 2005

Australian Government Department of Health and Ageing. Intergovernmental Committee on Drugs (IGCD) sub-committee, Methadone and Other Treatments. National Clinical Guidelines and Procedures for the use of Buprenorphine in the treatment of Heroin Dependence.
http://www.health.gov.au/internet/drugstrategy/publishing.nsf/Content/buprenorphine-guide

Australian Medicines Handbook, http://www.amh.net.au/online/view.php
NSAIDs, http://www.amh.net.au/online/view.php?page=chapter15/class2nsaids.html

Hillingdon Hospital NHS Trust, Anaesthetics: Preoperative Assessment Clinic.
http://www.thh.nhs.uk/Departments/Anaesthetics/an-preopassess.htm, accessed 26/11/2009

Kuczkowski, K M, Anaesthetic implication of drug abuse in Pregnancy. Journal of Clinical Anaesthesia 15:382-394. 2003

NSW Department of Health, Background papers to the national clinical guidelines for the management of drug use during pregnancy, birth & the early development years of the newborn. June 2006
http://www.health.nsw.gov.au/pubs/2006/bkg_pregnancy.html

The Royal Women's Hospital, Anaesthetics Handbook, March 2009.
http://intranet.thewomens.org.au/AnaestheticsHandbook

The Royal Women's Hospital. WADS: the Women's Alcohol & Drug Service
http://www.thewomens.org.au/AlcoholDrugService

7. Links

The Royal Women's Hospital

Clinical Practice Guidelines

- Alcohol & Other Drug Issues in Pregnancy: Management
- Analgesia - Post Caesarean Birth
- Methadone and Buprenorphine Dosing Procedures
- Methadone Stabilisation in Pregnancy

The Women's Policy and Procedure Manual (intranet-only)

- Epidural Management: Comprising infusion, PCEA, and Top-Up