

The Perioperative Management of the Opioid Tolerant Patient

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- ◆ This guideline refers to the management of these patients in the Perioperative phase around major surgery with anticipated moderate to severe post operative pain requiring opioid analgesia.
- ◆ For more minor surgery, patients should continue their routine analgesic regime & additional simple analgesia orally with additional prn oral or subcutaneous opioid analgesia being transiently added as normal.
- ◆ For patients who are prescribed Suboxone or Subutex for treatment of opioid dependence see [Web Hyperlink, **Suboxone/Subutex: A guideline for the peri-operative care of opioid dependent patients maintained on high dose Buprenorphine**](#)
- ◆ All these patients should be discussed with the Acute Pain Service (APS) as soon as possible. It is also desirable to notify the relevant Anaesthetist as soon as a theatre slot is allocated.

Introduction

When patients have been taking opioids for a prolonged period (whether legally prescribed or illegally obtained) effective titration of analgesia with parenteral opioids can be very difficult. Many of these patients will be tolerant to & physically dependent on these drugs; some will have an opioid addiction. These factors make the provision of effective analgesia a difficult & challenging task for this patient group.

Definitions

Tolerance - A decrease in the sensitivity to opioids resulting in less effect from the same dose, or the need for progressively larger doses to maintain the same effect. In acute pain management the practical significance of opioid tolerance is the need to administer higher doses of opioids to achieve the same level of analgesia when compared to an opioid naive patient with a similar injury.

Dependence - A physiological adaptation to a drug characterised by the emergence of a withdrawal syndrome if the drug is abruptly stopped, reduced in dose, or antagonized.

Addiction - A pattern of drug use characterised by aberrant drug taking behaviours & the compulsive use of a substance in order to experience its psychic effects, or to avoid the effects of its abstinence (withdrawal). There is continued use despite the risk of physical, psychological or social harm to the user.

Withdrawal Syndrome - The onset of a predictable constellation of signs & symptoms following the abrupt discontinuation of, or rapid decrease in dosage of a psychoactive substance e.g. opioids.

Patient Groups:

This classification is of limited value as it may lead to differential patient treatment depending on the opinion of the ward staff, however it helps to explain different management strategies:

1. Patients on long term opiates for cancer/chronic pain management
2. Drug addicts
3. Reformed Drug Addicts

This last group may be keen to avoid opioid drugs for fear of repeat addiction, but these drugs should be administered if clinically indicated. Obviously regional analgesic/anaesthetic techniques would appear to be best for these patients with total avoidance of opioids if possible.

General points in the management of these patients

Although this document concerns patients tolerant to opioids it should be remembered that those addicted to opioids may also suffer from other drug addictions & staff should be vigilant for signs of other drug/alcohol withdrawal.

Intravenous drug abusers constitute a significant risk to personnel from physical abuse as well as infection - HIV, TB, Hepatitis etc & should be treated accordingly.

Subjective pain scoring may be difficult to interpret particularly in active addicts & the additional use of more objective pain assessment, e.g. observation of response to movement and coughing, may be of more value.

The postoperative environment is probably not the ideal time to discuss entering a drug rehabilitation programme but any patient expressing an interest in this should be given the relevant information. Ideally these patients should be managed with input from additional relevant specialties e.g. palliative care, drug rehabilitation team etc.

It is useful to establish a verbal 'contract' with addicted patients to highlight the dangers of illicit drug use while in hospital as well as laying out the ground rules of what will & will not be tolerated by staff. BE FIRM. This is best achieved through the Acute Pain Service.

Try to establish from the patient current drug use including all rescue analgesia. Contact the general practitioner if necessary. With addicts it may be difficult to equate illicit street drugs with conventional dosing due to the varying cost & purity 'on the street.'

Management

General:

All these patients should be discussed with the Acute Pain Service as soon as possible.

The aim of management is two fold: To provide optimal pain relief & to avoid acute drug withdrawal.

Regional Anaesthetic/Analgesic techniques are often recommended in these patients to limit additional opioid requirement.

Do not withhold opioid analgesics if their use would otherwise be appropriate as this will only aggravate the situation.

Do not allow the patient to dictate the opioid of choice - in particular avoid Pethidine use. These patients may require large Perioperative opioid doses & Pethidine toxicity/adverse effects could be troublesome.

Avoid opioid antagonists if possible as they may precipitate acute withdrawal syndromes.

PCA is generally the most effective way of dealing with these patients as it allows high opioid delivery & avoids patient/staff conflict.

Analgesic adjuvants e.g. Paracetamol & Diclofenac should be used as part of a balanced analgesic technique unless contraindicated.

Convert patients back to their stable preoperative drug regime as soon as possible post operatively - escalation of this regime should not be necessary post operatively.

Specific:

Patients on long term opiates for cancer/chronic pain management - Management of these patients depends on whether they will be able to take oral medications in the immediate post operative period & is described in our SPECIAL CIRCUMSTANCES SECTION.

If regional analgesia is contemplated, remember that these patients will still require their routine preoperative opioid dose as well as their regional block throughout the Perioperative period. If epidural analgesia is used then depending on the infusion rate used, epidural opioid absorption may be enough, but if this is insufficient an alternative regime will be necessary to achieve optimal analgesia & avoid opioid withdrawal.

Drug addicts - Subdivided into those established on a methadone replacement programme whose management is the same as those patients established on oral opioids for cancer/chronic pain management & is laid out in our SPECIAL CIRCUMSTANCES SECTION. See also notes above on the use of regional analgesia.

Active abusers constitute a more difficult patient group to manage but they should be reassured that their pain will be taken seriously. Opioid requirements will often be much higher than 'average' in the immediate period after surgery/trauma & the amount of opioid needed may be difficult to judge. It may be better to start with a conservative estimate & then rapidly titrate the dose until the patient is comfortable (based on objective assessments). In practical terms the total dose should be increased until satisfactory analgesia is obtained or until side effects limit further increases. This is more easily achieved using PCA. Safety will always prevail & if the patient becomes sedated no further analgesia should be administered regardless of apparent ongoing pain. Clonidine or Ketamine may be useful adjuvant drugs in this situation but should only be used under the direction of the Acute Pain Service.

As the daily dose of opioid is likely to be high, when weaning from PCA it may be necessary to reduce analgesic doses over a number of days to prevent withdrawal. As mentioned before it is important to be firm with these patients & explain the dangers of additional drug use on the ward or tampering with the PCA device. It is also useful to set realistic goals with the patient about expected duration of treatment, plans for dose reduction etc.

Reformed Drug addicts - See above.

Special Circumstances

Broadly speaking in acute pain management there are 2 patient groups:

Opiate naive individuals - These are our normal patient group. These patients are not on any long-term opiates & do not misuse opiate drugs socially. Their response to opiate analgesia is individual & unpredictable & they should be managed with our routine postoperative analgesia regimes.

Opiate tolerant individuals - These are patients taking chronic oral opiates e.g. MST for cancer or chronic pain management. The term also refers to those individuals who use opiate substances socially e.g. intravenous drug abusers. These patients are a particular challenge to acute pain services as they often require very high levels of opiate analgesic drugs to achieve effective analgesia. In addition any analgesic regimen must take into account 2 further components:

1. The ongoing administration of the chronic dose of opiate to which the patient has become accustomed.
AND
2. The additional opiate administration required to deal with any new acute pain.

In other words until an appropriate dose of analgesic opiate has been administered to deal with the individuals chronic needs, no acute pain regime will be effective. Our Aim will therefore be to provide effective analgesia & avoid withdrawal from chronic opiate use.

Opiate Tolerant Patients

These patients will need to be alerted early to the APS so that an appropriate regime can be prescribed & monitored closely. Assuming they have significant surgery warranting postoperative opiate use then they are best managed with the use of a PCA. The situation can be sub classified depending on whether the patient will be fasting/nil by mouth after surgery.

Not Fasting - Routine oral medication e.g. MST plus normal PCA (1mg morphine bolus, 0.5mg if over 70 years, 5 minute lockout with no background infusion). These patients may however require higher opiate doses to control their pain & the bolus dose should be increased early if analgesia is inadequate (pain score greater than 2).

Fasting/Nil by mouth - This sub group of patients should receive a background infusion as well as PCA unless they are usually prescribed an analgesia transdermal opioid patch such as Fentanyl which can be continued as their background opioid with PCA to supplement for their acute pain. Care should be taken to record presence of these patches in the notes and Kardex. Rarely during acute illness there may be increased absorption from a patch by increased skin blood flow or decreased drug elimination which can lead to an increased effect from the patients usual dose of patch so the patient should be observed for opioid toxicity. The background infusion is designed to replace the chronic oral opiate dose & is based on an intravenous equivalent to 75-100% of the oral opiate dose:

Equianalgesic doses

(For other drugs and rates please see Web Hyperlink, [Lanarkshire Palliative Care Guidelines](#))

Opiate	IV/IM (mg)	Oral (mg)
Morphine	10	30
Methadone	10	15

In addition if a background infusion is started, the rate in mg/hour MUST NOT be more than the size of the bolus dose in mg.

For example:

A patient is taking MST 90mg BD (a total daily dose of 180mg per day)

Using a 3:1 oral to IV conversion as above, 180mg MST equals 60mg IV morphine.

Therefore a reasonable background infusion would be 48mg/day or 2mg/hour (always use whole mgs) with a PCA bolus dose of 2mg.

If analgesia is subsequently inadequate BOTH the background infusion & PCA bolus should be increased making sure that the background infusion rate in mg/hour never exceeds the bolus dose in mg. As soon as oral intake is re-established, MST should be recommenced & the background infusion stopped.

Lastly as these patients are unusual they should remain on hourly observations for the duration of their time on PCA. Only the APS/duty anaesthetist will alter the function/settings of their PCA.

Opiate abusers/addicts - If these patients undergo surgery that warrants post operative opiate use then PCA is probably the treatment of choice for a number of reasons;

1. The patient can titrate their own analgesia thus avoiding conflicts with staff secondary to opiate seeking behaviour.
2. If they are unable to take oral medications post operatively a background opiate infusion can be utilised to prevent withdrawal under close observation by the APS.
3. These patients are often admitted at night & a standard approach to opiate use with consistent follow up from the APS will aid management.

However, it is important to establish management contracts with these patients to prevent them abusing the service. They must be clear that the PCA is short term & should NOT be interfered with. They must also be clear on the potential danger of utilising additional illicit drugs while on PCA.

Finally, these patients often abuse more than one substance & we should be vigilant for the potential of withdrawal from other drug groups.

NB. Intravenous access may be difficult.

As before, these patients are unusual & they should remain on hourly observations for the duration of their time on PCA. Only the APS/duty anaesthetist will alter the function/settings of their PCA.

To contact the **Acute Pain Service** telephone M Herron on Page 021/Dect 6224 or the duty anaesthetist in ACCU on Page 003 out of hours.

Wishaw General Hospital, Acute Pain Service. M Herron (Nurse Specialist), C Slorach (Consultant Anaesthetist). Adapted July 2012 from The Perioperative Management of the Opioid Tolerant Patient [Hairmyres Pain Control on Firstport] with permission from Dr Grant Haldane [Acute Pain Lead] and Sister Katie Ramage.