

Controlled Drugs: Learning from incidents

This bulletin contains local and national CD information for shared learning.

SERIOUS INCIDENT - ALFENTANIL

There has been a serious incident within our area due to prescribing the wrong dose of Alfentanil. The bulletin this quarter highlights the information needed when prescribing Alfentanil and when to do so.

What is Alfentanil?

Alfentanil is a strong opioid analgesic that can be used as an alternative to subcutaneous morphine, diamorphine or oxycodone for moderate to severe pain. Alfentanil has a rapid onset of action, a relatively short half-life and is metabolised to inactive metabolites by mechanisms that are not dependent on renal function.

Licensed Indications:

Although alfentanil is licensed as an analgesic supplement for use before or during anaesthesia, its use in palliative care is an off licence indication, as is the case with many medications commonly used in palliative care. Alfentanil is indicated as an alternative to other strong opioids in patients with severe renal impairment or intolerance to other opioids.

Special warnings and precautions for use:

- When prescribing and administering, great care should be taken due to potential confusion from similarity in doses and drug names (i.e. fentanyl, alfentanil and 5mg/ml and 500mcg/ml).
- The administration of alfentanil can cause a fall in blood pressure, which may be exaggerated in hypovolaemic patients or in the presence of concomitant sedative medication.

Significant respiratory depression and loss of consciousness will occur following administration of alfentanil in doses in excess of 1 mg and is dose-related. This and the other pharmacological effects of alfentanil are usually of short duration and can be reversed by the specific opioid antagonists (e.g. naloxone). Additional doses of the antagonists may be necessary because the respiratory depression may last longer than the duration of action of the opioid antagonist.

See individual Summary of Products Characteristics (SPCs) :

[Alfentanil 5mg/ml solution for injection](#)

[Alfentanil 500micrograms/ml solution for injection](#)

Adverse effects: Adverse effects are broadly similar to other opioids.

Commonly these include: Nausea and vomiting, constipation, dry mouth, urinary retention *Other reactions include:* Hypersensitivity, myoclonus, confusion, hallucinations and respiratory depression.

Controlled Drugs: Learning from incidents

May 2022 Issue 22

Dosage & method of administration:

The appropriate dose will vary between patients (e.g. with age, size, renal and hepatic function) and according to previous opioid exposure.

In the opioid naive, a low starting dose should be chosen according to the likely needs of the individual. A typical starting dose over 24 hours might be 0.5-1mg alfentanil. It is rare to start Alfentanil without prior PRN use of other strong opioids to assess effect.

In patients already on an opioid an appropriate conversion should be conducted according to the relative potency of the current opioid. Palliative Care advice should be sought for this conversion.

Relative potency;

- Alfentanil 1mg subcutaneously is approximately equivalent to 10mg diamorphine subcutaneously
- Alfentanil 1mg subcutaneously is approximately equivalent to 30 mg morphine orally
- Alfentanil is approximately one quarter the potency of fentanyl

Adjustment of dose should be made in conjunction with the palliative care team, according to daily opioid requirements. An increased free fraction of alfentanil in patients with renal failure has been reported, this combined with a potential increased permeability of the blood brain barrier in renal failure, may lead to increased sensitivity to any given dose. Cautious conversion and titration is therefore recommended.

Additional pain relief: The short half-life which is of potential benefit in reducing the risk of toxicity means that PRN subcutaneous alfentanil may last only one to two hours. This may be effective for some patients, but for the majority a longer acting opioid such as oxycodone is more appropriate. This represents a risk of accumulating metabolites and toxicity but with careful adjustment of dose and maximum frequency, in most cases an acceptable balance is met to maintain analgesia. Morphine or diamorphine are not recommended.

Mixture with other drugs in syringe drivers should be checked with the palliative care team due to the risk of incompatibility. **Cyclizine is noted to be at risk of incompatibility with alfentanil.** However, levomepromazine, metoclopramide, midazolam and hyoscine butylbromide (Buscopan) are compatible.

Shared Care and General Practitioner Responsibilities:

- Prescribe alfentanil in accordance with specialist advice and patients' changing needs.
- Inform palliative care specialist of any changes in the patients' medical condition, especially adverse effects, and/or changes to prescribed medication.
- Undertake monitoring where agreed with Palliative Care Service (PCS).
- Discuss with PCS appropriate action in the event of relapse of pain or other concerns.
- Refer prescribing back to the specialist should problems arise that cannot be readily corrected

In certain areas Alfentanil 1mg/2ml, 5mg/10ml & 5mg/1ml injections are formulary approved for initiation by specialists in palliative care.

[Overview](#) | [Palliative care for adults: strong opioids for pain relief](#) | [Guidance](#) | [NICE](#)

If you need advice, or would like an article to be included in a future issue, please contact a member of the Controlled Drug Team below, who manages your area:

Northumberland Tyne & Wear and North Cumbria	Emma Post	0191 2172983	emma.post@nhs.net
Durham Darlington & Tees	Victoria Bennett	01642 745429	victoriabennett1@nhs.net
Yorkshire and Humber	Mandi Silver		england.yhcdao@nhs.net
CD Liaison Officer for all areas	Ken Dale	07919071655	ken.dale@nhs.net

