ONOMY Science

American Journal of Palliative Medicine & Care
ISSN 2688-5344

Review Article Open Access

Review of Alfentanil Dosing

J. Hindmarsh[1,2*]

[1] South Tyneside and Sunderland NHS Foundation Trust, Sunderland, United Kingdom
[2] St. Benedict's Hospice, Sunderland, United Kingdom

***Corresponding Author:** J. Hindmarsh, South Tyneside and Sunderland NHS Foundation Trust and St. Benedict's Hospice, Sunderland, United Kingdom, Email: jonathan.hindmarsh@chsft.nhs.uk; Tel: 0191 5656256 bleep 52553

Citation: Review of Alfentanil Dosing. Am J Pallia Med & Car. 2019; 1(2): 001-002.

Submitted: 8 August 2019; **Approved:** 11 August 2019; **Published:** 12 August 2019

INTRODUCTION

For patients approaching the end of life with severe renal impairment or rapidly deteriorating renal function, the Northern England Clinical Network (NECN) Palliative and End of Life Care Guidelines1 recommend commencing alfentanil at a dose of 100 micrograms (SC PRN 1-hourly) for the management of pain. However, at City Hospitals Sunderland alfentanil is initiated at a much larger dose of 250 micrograms (SC PRN 1-houly), as part of the renal 'Care of the Dying' medication set.

On reflection, the palliative care team have not experienced any issues with using the larger dose of alfentanil. What's more, no incident reports have been submitted to suggest alfentanil, at a dose of 250 micrograms, causes patient harm. Nonetheless, it is necessary to:

- Identify, quantitatively, if patients are experiencing toxicity or side-effects with 250 microgram doses of alfentanil.
- Conclude if alfentanil dosing within City Hospitals Sunderland should be reduced in accordance with the NECN Palliative and End of Life Care Guidelines.

Method

A data repository search was undertaken to retrospectively identify patients who had been prescribed and administered alfentanil 250 micrograms, as part of the renal 'Care of the Dying' medication set over a 9 month period. 50 patients, who had been discharged from the hospital prescribing system, were selected at random for data collection and analysis.

For each patient the following data was recorded:

1. Alfentanil prescription status (which could be "discontinued" or "discontinued by discharge")
   - Discontinued - indicates that the prescription was intentionally stopped by a doctor during the patient's admission
   - Discontinued by discharge - indicates that the prescription was active at the point of discharge / death
2. If the alfentanil dose had been reduced from 250 micrograms or if the minimum dosing interval for alfentanil had been increased from PRN – 1 hourly
   - A dose reduction or an increase in dosing interval could imply the patient was experiencing side-effects and/or toxicity
3. If naloxone was prescribed for any patient receiving alfentanil
   - Would indicate opioid toxicity
4. If electronic nursing or pharmacy records indicated toxicity or side-effects with 250 microgram doses of alfentanil
5. If an alternative opioid was prescribed in place of alfentanil 250 micrograms (SC PRN 1-houly)
   - May imply tolerability issues

Results and Discussion

Table 1: Data collection generated from 50 patients who received alfentanil

Status of prescription:	Was the dose of alfentanil reduced		Was the dosing interval of alfentanil increased		Was naloxone prescribed and administered		Did electronic records identify opioid side-effect and / or toxicity		Was an alternative opioid used	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Discontinued by discharge (n=47)	0	47	0	47	1	46	1	46	0	47
Discontinued (n=3)	0	3	0	3	1	2	1	2	2	1

- In total, 47 alfentanil prescriptions, at a dose of 250 micrograms, were 'discontinued by discharge,' meaning the prescription was active throughout admission, up until the point of discharge.
- Although 3 alfentanil prescriptions were discontinued by a doctor, none of these were stopped because of toxicity or tolerability issues.
- 1 alfentanil prescription was discontinued as the patient improved clinically and palliative management was no longer necessary.
- 2 alfentanil prescriptions were stopped and switched to oxycodone SC PRN, due to the ephemeral action of alfentanil.
- In no instances, of the 50 cases observed, was the dose of alfentanil reduced or the dosing interval increased.
- Two patients displayed signs of toxicity and were administered naloxone, however, the electronic records clearly indicate naloxone was administered to treat toxicity from another opioid (oxycodone n=1; morphine n=1) prior to alfentanil being commenced. There was no temporal relationship between alfentanil and naloxone administration.

Conclusion

From review of the 50 patient cases, there is no evidence to suggest that using alfentanil at a dose of 250 micrograms (SC PRN 1-hourly) results in opioid toxicity or side-effects in palliative patients. The only issue highlighted, is that on two occasions, alfentanil, due to its short duration of action, was substituted for a longer acting alternative. Thus, there is little justification for reducing alfentanil dosing.

It is the opinion of the Palliative Care Team that alfentanil dosing, as part of the renal 'Care of the Dying' Medication set, should remain at a dose of 250 micrograms (S/C PRN – 1 hourly).

The palliative care team is comprised of:

- Jonathan Hindmarsh – Palliative Care Pharmacist
- Dr Mark Lee – Palliative Care Consultant
- Sonia Thompson – Palliative Care Specialist Nurse
- Carolyn Wills – Palliative Care Specialist Nurse

References

1. Palliative and End of Life Care Guidelines, symptom control for cancer and non-cancer patients (4th edition). Northern England Clinical Network. 2016.

Cite this article: Review of Alfentanil Dosing. Am J Pallia Med & Car. 2019; 1(2): 001-002.