Opioid rotations in the hospice lead to increased opioid usage, yet fewer adverse effects

Opioids in the hospice – have we got the right balance?

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Introduction

Opioid use in palliative care requires a fine balance between benefits and risks. Dose adjustments and/or a complete switch from one opioid to another (termed *opioid rotation*) may be required for adequate pain control with minimal or tolerable adverse drug reactions (ADRs) [1].

Despite the established role of opioids in palliative care and complexities involved in their management, limited studies have assessed trends in opioid use and opioid rotation management in the setting of specialist inpatient palliative care units (PCUs).

Aims

1. Investigate changes in Oral Morphine Equivalent Dose (OMED) from admission to discharge or death.
2. Determine indications for, benefits of, and ADRs associated with opioid rotation.
3. Identify adjuvants used and evaluate their correlation with OMED.

Method

A retrospective case-note audit was conducted on admissions to a metro PCU between April 2019 and April 2020. Patients included were admitted ≥48hr, received an opioid and had a completed medication history & discharge summary. They were grouped for comparison: *deceased, discharged, rotated*.

All opioids and dosage forms were included, except intrathecal and methadone. OMED was calculated using the ANZCA Opioid Calculator. Constipation and nausea were assessed using Symptom Assessment Scale (SAS). Presence of delirium was as noted by the medical team.

References

1. Knotkova H, Fine P.G, and Portenoy R.S 2009, "Opioid rotation: the science and the limitations of the equianalgesic dose table", Journal of Pain and Symptom Management, vol. 38, no. 3, pp. 426-439.

Results

- 202 patients were included (44% female). The life limiting illness in 95% of patients was cancer.

1. Change in OMED from admission to discharge or death (see Table 1)

Table 1 *median *(IQR)*

Group	OMED* at admission (mg)	OMED* at death or D/C (mg)	% change (increase)
All	60mg *(15-195)*	97mg *(30-230)*	67%
Discharged	53mg *(10-225)*	90mg *(30-210)*	80%
Deceased	66mg *(21-189)*	98mg *(30-241)*	59%

Table 2 Rotated patients only

Time	Delirium (n)	Constpn (n)	Nausea (n)
24h Prior Rotation	11	10	4
24h Post Rotation	8	10	6
48h Post Rotation	6	9	7
72h Post Rotation	5	9	4

- Pain distress scores, combining all patients, were reduced from admission to death or D/C (mean SAS scores 2.48 and 1.79 respectively).

2a. Opioid Rotations

- 39 opioid rotations were performed - most common reasons were pain (39%) and ADRs (21%).
- For *rotated* patients, OMED increased by 2% with every 10 hours that passed, for a total observation period of 72 hours (EE=1.02, 95% CI:1.01-1.04).

2b. Opioid ADRs

- Odds of having worse nausea was 85% less at death or D/C than on admission ($p<0.05$).
- Odds of having worse constipation was 89% less at death or D/C than on admission ($p<0.05$).
- Odds of having delirium was 22% less at death or D/C than on admission, non-signif. ($p>0.05$).
- In *rotated* patients, the incidence of delirium decreased with time after the rotation (Table 2).
- No increase in nausea or constipation was detected after opioid rotation (Table 2).

3. Adjuvant Use

- For *discharged rotation* patients only, those taking no adjuvants had a mean OMED value 67% **less** than those patients taking 2 or more adjuvants ($p<0.05$).

Discussion

- Opioid requirements increased significantly during admission. Despite this, the odds for having problematic opioid ADRs decreased during admission.
- Opioid rotations were undertaken with conservative dose selection, titrated safely to effect.
- Use of adjuvants correlated with an increase in opioid usage, though this was likely confounded by 'user bias' in patients with complex pain.

Conclusion

- Pain scores across an admission were improved and ADRs either improved or did not worsen, indicating our practice is aligned with the goals of improving patient experience and maximising quality of life.

For more information

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