

Oxycodone audit at Christchurch Hospital

Introduction

Oxycodone is an opioid analgesic with similar actions and adverse effects to morphine. The immediate release capsules (OxyNorm™), slow release tablets (Oxycontin™), injection (OxyNorm™) and oral solution (OxyNorm™) are all now funded for use in New Zealand.

As the use of oxycodone has been increasing over the past 2 years an audit was undertaken in 2007 to gather data on the use of oxycodone within Christchurch Hospital.

Method

Data was captured from clinical notes and drug charts over 2 weeks using a piloted data collection sheet. Data included patient demographics, prescribers, indications and use as first or second line therapy. Patients were recruited from all adult wards in Christchurch Hospital. An Access™ database was developed and data were entered for analysis.

Results

26 patients were captured over the 2 week period.

Demographics

Male:female	11:15
Median age	63 years
Range of ages	21 to 94 years

Which specialities were using oxycodone?

9 specialities were prescribing oxycodone: Orthopaedic Surgery had the most patients (7) followed by Oncology (6), General Surgery (3), Gastroenterology (2), General Medicine (2), Urology (2), Neurosurgery (2), Neurology (1) and Clinical Haematology (1).

What indications was oxycodone being used for?

The main painful indications were fracture in Orthopaedic Surgery and Neurology, lung cancer in Oncology, and abscess in General Surgery.

Who was choosing oxycodone?

For 8 patients the decision to use oxycodone was made by their speciality team. A further 8 patients arrived in hospital already taking oxycodone, and 5 each had oxycodone use recommended by the Pain Team or the Palliative Care team.

Was oxycodone being used 1st or 2nd line?

16 patients were switched to oxycodone from morphine i.e. 2nd line use. 6 patients were initiated on oxycodone without trying another opioid first. In 4 patients it was unclear whether another opioid had been tried first.

9 patients were concurrently prescribed another opioid with oxycodone.

If 2nd line, what was the reason for switching?

9 patients had adverse effects from morphine (nausea or vomiting > sedation > hallucination > constipation) while 6 patients had inadequate analgesia from morphine. In 1 patient it was unclear why the switch had been made.

When a switch to oxycodone was made i.e. 2nd line use, it was from morphine in all cases (16 patients). In some patients (3) slow release oxycodone was prescribed regularly with as required morphine elixir for breakthrough pain. This occurred on the orthopaedic, oncology and general medicine wards.

Which formulations of oxycodone were being used?

Most patients (11) used a combination of slow and immediate release preparations, the latter being prescribed for when required use. Slow release tablets alone were prescribed for 5 patients while immediate release capsules alone were prescribed for 10 patients.

Equivalent dose cost comparison

Slow release morphine 20mg	\$0.36
Slow release oxycodone 10mg	\$0.55
Immediate release morphine tab 20mg	\$0.51
Immediate release oxycodone cap 10mg	\$0.28
Oral liquid morphine 20mg	\$0.43
Oral liquid oxycodone 10mg	\$0.45
Morphine inj 10mg	\$0.95
Oxycodone inj 10mg	\$2.88

Discussion

The availability of oxycodone as an alternative to morphine is a useful addition to the armamentarium for moderate to severe pain. Although very similar to morphine in effect (mainly a mu opioid agonist) and side-effects (constipation, CNS effects), oxycodone has differences. It is metabolised by CYP3A4 and 2D6, which means that blood concentrations, effects and side-effects are more likely to be affected by other drugs than morphine, which is metabolised by glucuronidation.

The use of oxycodone at Christchurch hospital during the 2 week study period in 2007 appears to be small. The main users were orthopaedics and oncology. It is more often used as 2nd line to morphine than 1st line which suggests that sensible prescribing is occurring. The injection and oral solution have become available since this audit was undertaken. A re-audit in 2008 may provide more useful information on the overall usage of oxycodone.