Opioid medication in the palliative care of motor neurone disease

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**Key words**

analgesic; opioids; motor neurone disease; palliative care

**Abstract**

In the palliative care of patients with motor neurone disease (MND) symptoms are encountered that can be helped by the use of strong opioid medication. A retrospective survey of the 32 patients dying of MND at the Wisdom Hospice who required opioids showed that 75% received oral opioids, 94% received parenteral opioids and 72% received both oral and parenteral opioids. The median oral morphine dose was 60 mg/24 h, with a median duration of 51 days and the median parenteral dose was180 mg/24hours with a median duration of use of three days. The results show that strong opioids can be used safely and effectively in the palliative care of patients with MND.

**Introduction**

# People with motor neurone disease (MND) may be helped by the provision of palliative care, with the aim of allowing them to remain as active as possible and addressing all their problems – physical, psychological, social and spiritual.1,2 The control of some symptoms may require the use of opioid medication, particularly in the relief of pain, dyspnoea, insomnia, and in the terminal stages of the disease.2,3 Sixty-two patients with MND have received care at the Wisdom Hospice since 1985 and the details of this population have been described before.2 Of these patients 33 (53%) have died at the Wisdom Hospice and 29 (47%) have died at home. This study aims to investigate the use of strong opioids throughout the involvement of the hospice services for the patients dying at the hospice.

# Methods

A retrospective analysis of the notes of the 33 patients dying at the Wisdom Hospice was under- taken. As the hospice provides an advisory and supportive role for patients at home, other health care professionals, such as the general practitioner, may be involved in the care and prescription of medication for the patient. It is therefore difficult to establish the details of all medication given to patients dying at home and these patients were excluded from the analysis.

# Results

Of the 33 patients dying at the Wisdom Hospice, 32 (97%) received strong opioids. Of these patients, 15 (47%) were male and 17 (53%) were female. The overall mean age was 64 years (male: 60 years; female: 67 years). The original mode of presentation was with bulbar symptoms in 13 patients (41%) with arm weakness in 11 (34%) and with weakness of the legs in eight (25%). The estimate for the mean duration of the disease was 24 months from first symptom to death (median 23 months, range 9–54 months), with a mean delay in diagnosis of nine months from first symptom to diagnosis. In the terminal phase of the disease six patients (19%) had deteriorated in less than one day, 19 (59%) deteriorated over one to seven days and seven (22%) deteriorated over a period of over seven days – the period of deterioration was taken from the time when the patient first appeared to be dying.

Of the 32 patients receiving strong opioids, 75% received morphine as oral morphine elixir or modified-release tablets, 94% received parenteral diamorphine, as a subcutaneous or intramuscular injection or a continuous subcutaneous infusion and 72% received both oral and parenteral medication. The main indications were pain control for 16 (50%), dyspnoea and/or cough for 11 (34%), insomnia for two (6%) and terminal symptom control for three (10%).

The details of the use of oral and parenteral strong opioids are shown in Table 1 – the doses are expressed as oral morphine equivalent. The results are skewed by a few patients receiving higher doses or receiving opioids for longer periods of time. For instance, if the patient who required morphine elixir at 180 mg every 4 h and the patient who required morphine for 970 days are excluded, the mean oral morphine dose reduces to 69 mg/24 h and the mean duration of use reduces to 55 days.

The effectiveness of the opioid medication was assessed from the medical and nursing records in the patient’s notes. The effectiveness was assessed as ‘good’ or ‘fair’ for all patients. The effectiveness varied according to the indication – the effective- ness was assessed as ‘good’ for 69% of patients requiring strong opioids for pain relief, 54% for patients with dyspnoea and/or cough and 100% for patients receiving strong opioids for insomnia or in the terminal stages.

# Discussion

In the study of all 65 patients dying under the care of the Wisdom Hospice services, both at home and in the hospice, pain was a symptom for 76% of the patients, dyspnoea for 81%, cough for 52% and insomnia for 33%.2 These results are similar to other studies – Hicks and Corcoran

found that 77% of patients4 and O’Brien *et al.*found that 57% of patients3 on admission

to two hospices complained of pain, while Newrick and Langton-Hewer found 64% of patients under a neurology service complained of pain.5

The results show that opioids are useful in the palliative care of patients with motor neurone disease. The doses used were higher than reported before – O’Brien *et al*. found a mean oral morphine dose of 30 mg/24 h and a mean parenteral opioid dose of 72 mg/24 h, oral morphine equivalent.3 In this study the dose of opioid was only increased if the patient’s condition and symptoms required an increase, particularly in the terminal stages, due to increased pain and stiffness, increased cough or respiratory distress and increased distress and/or pain on turning. The higher doses in this study may be because of the patient population. In the previous series the patients had a longer duration of illness (42 months from onset of symptoms to death), fewer bulbar symptoms (36% of patients with speech problems, compared to 80% in this study), and over 90% of the patients died in the hospice.2,3 The patients in this study may have had more bulbar problems and increased symptom control needs and were more likely to have severe problems, as patients with fewer or less severe symptoms were able to die at home.2 The patients dying at the Wisdom Hospice may require higher doses of opioids to control these more severe symptoms, whereas the patients dying at home, with fewer and less severe symptoms, require lower doses. In the previous series both groups have been included together and this may partly explain the lower doses described in their patient population.

Although the doses of these drugs would appear to be higher than in the previous study the duration of use shows that strong opioids can be used safely in palliative care. Oral morphine elixir was used effectively for an average of 95 days and parenteral opioids were used for over six days. These figures show that the use of morphine and diamorphine does not necessarily shorten life, but if carefully titrated to the patient’s symptoms can allow the patient to live life as fully as possible.

Strong opioids are rarely suggested in the care of patients with motor neurone disease and are often only advised ‘in the advanced stages of the disease’.6 This may be due to fears of patients and families, as the use of morphine may be associated with many people with the terminal stages of disease and with imminent death.7 There are also often fears and misapprehensions among health care professionals that strong opioids may hasten death or should be restricted to the very terminal stages. This study shows that they can be used safely and effectively to reduce a patient’s distress and should not be withheld.

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Table –Doses of opioids

Modified-release Parenteral continuous Oral morphine morphine tablets subcutaneous infusion

Mean dose 96 75 248

Median dose 60 60 180

Range 15–720 40–180 45–600

Duration of use (days)

Mean 95 131 6.6

Median 51 60 3

Range 2–970 4–970 1–30

 Dose (mg/24 h oral morphine equivalent)