

Short Report

Pain assessment and analgesic prescription for cancer patients in a medical ward: The influence of an educational intervention

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ABSTRACT

Background. Pain is present in more than 75% of patients with advanced cancer and is often under-treated. Adequate pain control is an essential component of patient care. By correctly following the WHO analgesic ladder, pain can be controlled in nearly 90% of patients with cancer. Clinical audits help to improve patient care. Hence, an audit was done on documentation of pain and prescription of analgesics in patients with cancer admitted to a medical ward.

Methods. We conducted a retrospective audit of inpatient charts to assess the adequacy of documentation of pain and prescription of analgesics. Following this, we introduced an educational intervention in the form of teaching, provision of pocket guidelines and displaying a poster with the WHO analgesic guidelines. Subsequently, we conducted a prospective audit of documentation of pain and prescribing practices against the following standards: documentation of pain, intensity and response, prescription of analgesics based on WHO guidelines, prescribing breakthrough analgesics and prescribing stimulant laxatives with strong opioids.

Results. The retrospective audit included 39 patients and the prospective audit had 34 patients. Pain was documented in 89.7% and 82.4%, pain intensity in 12.8% and 8.8%, and pain response in 12.8% and 11.8%, in the retrospective and prospective audits, respectively. WHO principles were correctly followed in 74.3% and 88.2%, and breakthrough analgesics prescribed in 38.4% and 61.8%, respectively.

Conclusion. There was improvement in correctly following the WHO analgesic guidelines and prescribing breakthrough analgesics but not in documentation of pain. Clinical audits and interventions such as teaching, pocket guidelines and posters can result in better patient care.

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INTRODUCTION

Pain is a common symptom in patients with cancer and is present

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in 30%–40% of those with early cancer and in 70%–80% of those with advanced cancer.¹ The prevalence of pain among the palliative care population at Cleveland Clinic Foundation was 71%.² The WHO cancer unit developed simple analgesic prescribing guidelines, which are the gold standard for the management of pain in patients with cancer.³ A 10-year prospective study of 2118 patients showed that prescribing according to these guidelines produced good and satisfactory pain control in 88% of patients.⁴ Despite effective ways of controlling pain, it is a commonly ignored and uncontrolled symptom. Amid the array of investigations required to make a diagnosis, many patients are not prescribed analgesics, or do not receive them in the right dose and frequency, and suffer uncontrolled pain, despite being seen by doctors. A multicentre cross-sectional survey of cancer patients in France revealed that 30% of patients in pain did not receive any analgesics and 51% had inadequate pain relief, which was often because of poor assessment of pain and a discrepancy between the patient's and physician's assessment.⁵ The joint commission on accreditation of healthcare organizations standards for the assessment and treatment of pain require that all inpatient and outpatient healthcare facilities should systematically assess and document pain.⁶

Audit is a means of improving patient care, by assessing whether or not we are doing the right thing. Audit and feedback have been shown to improve detection, assessment and management of pain in hospitalized cancer patients.⁷

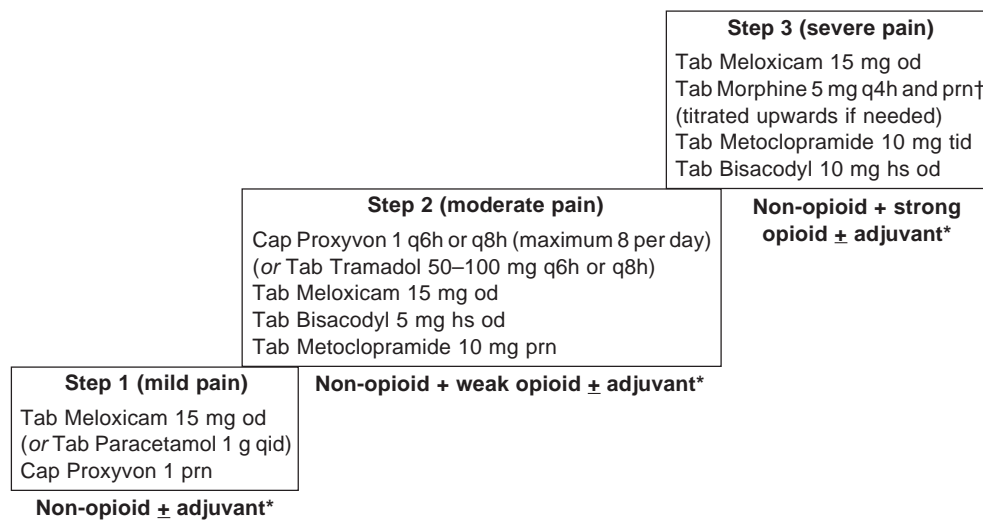
There is evidence that educational interventions targeting medical professionals play a crucial role in improving pain management in patients with cancer.^{8,9} A systematic review of organizational models that help pain management in patients with cancer concluded that institutional models, clinical pathway models and consultation models result in better management of pain.¹⁰ A systematic review of 33 articles, of which 25 (76%) were interventions targeting health professionals, and 8 (24%) interventions targeting patients and family to improve control of pain due to cancer, showed that there was an improvement in the knowledge and attitudes of healthcare professionals towards pain due to cancer, but unfortunately the interventions did not have much impact on reducing patients' pain levels. The reviewers suggested that the use of a daily pain diary to systematically document pain fluctuations in ambulatory patients would be a promising method to enhance control of pain.¹¹

To improve pain management in patients with cancer, we conducted an audit of the documentation of pain in and prescription of analgesics for patients with cancer admitted to the pulmonary medicine ward.

METHODS

This audit was done at the Christian Medical College and Hospital, Vellore. It consisted of a retrospective chart audit (phase 1, $n=39$, October 2006 and January 2007) followed by an educational intervention and a prospective chart audit (phase 2, $n=34$, February 2007 to May 2007). The educational intervention was a 1-hour teaching session which was attended by all the doctors in the pulmonary medicine department followed by distribution of pocket guidelines (Fig. 1) and display of a poster in the ward on the WHO standards of pain management in patients with cancer.

WHO analgesic ladder with sample prescriptions



* In patients with neuropathic pain, spinal cord compression, bone pain, use of adjuvants/appropriate referral for expert opinion should be considered.

Analgesics should be given at the right dose, at the right time (round the clock at the right frequency), by the right route (oral).

Oral morphine prescribing guidelines

(For more information: <http://www.jpalliativecare.com/documents/oralmorphine.doc>)

Morphine should be given with a non-opioid.

Start with 5 mg q4h (unless patient is already on opioids†).

For breakthrough pain, give an extra dose (same as the 4-hourly dose) up to 1–2 hourly. Do not omit the next regular dose if a prn dose has been given.

Always...

Prescribe a stimulant laxative prophylactically (e.g. Tab Bisacodyl 10 mg at night. Do not use bulk laxatives such as isphagulla).

Prescribe an anti-emetic prophylactically for the first few days.

† Morphine when patient is on opioids

If a patient is already taking >4 capsules of Proxylon, the smallest starting dose would be morphine 5–10 mg q4h.

Increasing the dosage of morphine

If pain is not controlled or >2 prn doses are needed per day, increase by approximately 50% of the starting dose, or recalculate q4h dose based on total used in previous 24 hours.

If the oral route is no longer practical, give **half** the dose by subcutaneous injection (10 mg per oral=5 mg subcutaneous).

If pain is non-responsive

- Check compliance.
- Is the patient taking drugs prn only?
- Have you got the cause right?
- Does the dose of the opioid need to be increased?
- Is there a neuropathic element?
- Are psychosocial aspects being neglected?
- Will treatment of side-effects permit more analgesics to be used?
- Will an alternate route of administration help?

Adverse effects

When starting the patient on opioids, use Tab Metoclopramide 10 mg q8h x 3 days

- If patient is constipated on opioids even with Tab Bisacodyl 10 mg hs od,
 - consider Tab Bisacodyl 10 mg tid, along with a stool softener (e.g. Cremaffin 15–30 ml tid).
 - if the problem persists, intervene early with rectal measures, do a rectal examination to rule out impaction
 - use a bisacodyl suppository.
 - give a high glycerine enema.
 - do digital rectal evacuation.

FIG 1. Guidelines for the management of pain in patients with cancer

Inpatient records were used for collection of data including documentation of pain, pain intensity using categorical verbal rating (mild, moderate, severe) or any pain score and response to analgesics. The analgesics prescribed were compared with the WHO recommendations (Step 1 should include a non-opioid, Step 2 a non-opioid and a weak opioid, and Step 3 a strong opioid and non-opioid; Fig. 1), use of appropriate breakthrough analgesics and the use of prophylactic stimulant laxatives along with strong opioids. Data collection was done using a questionnaire which addressed the set standards. Arithmetic analysis was done and the results of phases 1 and 2 were compared.

RESULTS

The audit included 39 patients in phase 1 and 34 in phase 2, with most patients having lung cancer (89%, age range 30–77 years). Pain was documented in 89.7% and 82.4% in phases 1 and 2, respectively. The principles of the WHO analgesic ladder were correctly followed in 74.3% of patients in phase 1 and 88.2% in phase 2. Appropriate breakthrough analgesics were prescribed in 38.4% of patients in phase 1. This increased to 61.8% in phase 2 and met the set standard (Table I).

DISCUSSION

Pain was documented in 89.7% and 82.4% of patients in phases 1 and 2 of the audit, respectively. Pain intensity and response of pain to analgesics were documented in only a minority, falling much below the set standards—12.8% and 8.8%, and 12.8% and 11.8% in phases 1 and 2, respectively. A randomized study examined the difference in pain control when patients filled in clinical charts with pain scales, analgesic regimens and pain relief, and either showed it to the physician or did not. There was a significant alteration in analgesic regimens in the group where physicians saw the clinical chart, due to better understanding of the patient’s pain.¹² A chart audit on postoperative assessment of pain showed that nurses documented 98.8% of pain while doctors documented 29.4%.¹³ In a prospective audit in the community on management of pain in patients with cancer, pain scores were recorded in 90% of visits by community staff (Table II).¹⁴ In a national cross-sectional survey on the prevalence of pain in cancer patients in Scotland, pain intensity was recorded in 80%.¹⁵

However, in this audit, there was not much difference in documentation patterns in both the phases. The percentage of

patients in whom the pain, its intensity and response to analgesics was documented was far below the set standard.

The principles of the WHO analgesic ladder were correctly followed in 74.3% of patients in phase 1 and in 88.2% in phase 2, falling a little short of the standard set (90%). In the national survey in Scotland on prevalence of pain, WHO standards for analgesic prescription were met in 79% of those in specialist palliative care units.¹⁵

Appropriate breakthrough analgesics were prescribed in 38.4% of patients in phase 1. This percentage rose to 61.8% in phase 2 and met the set standard. In a prospective study in a population receiving palliative care, analgesics for breakthrough pain were prescribed in 33%² and in only 20.5% in a community-based audit.¹⁴

This audit demonstrates that it is possible to collect and analyse data on various aspects of pain management in the context of routine patient care. It helped to identify practical difficulties and aspects that need improvement, and to find solutions. Improvements were noted, especially in the areas of prescribing analgesics according to WHO guidelines and prescribing appropriate breakthrough analgesics. However, it is also clear that the existing practices of pain assessment and documentation are poor. Poor documentation has also been noted in other studies. Time constraints seem to be a barrier for documentation.¹⁶

Evidence supports the use of professional education to improve the assessment and treatment of pain in hospitalized patients.^{8,9} The teaching intervention done in this study did improve the prescribing patterns of analgesics. Another approach that could improve the management of pain in cancer patients is a patient-based educational intervention as has been shown by a recent systematic review and meta-analysis.¹⁷

Results from this audit provide another starting point for the audit loop of the care of cancer patients with pain, such as a re-audit on documentation patterns after introducing a few changes. An audit done after teaching twice-daily pain intensity monitoring as standard clinical practice using a visual analogue scale (VAS) to nurses showed that VAS rating was reported in 94.6% of charts.¹⁸ Pain assessment as the fifth vital sign should be emphasized by the incorporation of simple pain assessment charts, which can be maintained by doctors or nurses. There is evidence for improvement in the documentation of pain assessment and intensity through the implementation of new pain documentation forms.¹⁹ Pain documentation was 100% in an audit after the introduction of pain monitoring charts maintained by nursing staff in an oncology ward.²⁰

The results of our audit reflect only inpatient practices. Management of cancer pain is a process, which begins with pain

TABLE I. Results of phases 1 and 2 of the audit

Item	Phase 1 (n=39)	Phase 2 (n=34)
Men:Women	30:9	24:10
Age range (years)	30–77	30–75
<i>Diagnosis</i>		
Lung cancer	36	29
Others	3	5
<i>Standards set for the audit</i>		
1. Pain should be documented in 90%	89.7%	82.4%
2. Pain intensity should be documented in 75%	12.8%	8.8%
3. Pain response should be documented in 75%	12.8%	11.8%
4. Analgesic prescription should be according to WHO analgesic ladder in 90%	74.3%	88.2%
5. Appropriate breakthrough analgesics should be prescribed in 50%	38.4%	61.8%
6. Stimulant laxatives should be used with strong opioids in 90%	Not applicable	Not applicable

TABLE II. Common errors in the management of pain in patients with cancer

● Failure to assess each [type of/cause of] pain individually
● Recommending only prn analgesia
● Not prescribing prompt breakthrough analgesia
● Using parenteral analgesia when the oral route would suffice
● Reluctance to prescribe oral morphine
● Using morphine 6-hourly rather than 4-hourly
● Using bulk laxatives such as isphagulla for opioid-related constipation
● Lack of awareness of neuropathic/muscle spasm pain that may require adjuvant analgesics
● Not combining a non-opioid and an opioid
● Ignoring psychosocial issues
● Moving sideways instead of going to the next step on the WHO analgesic ladder when an increase in analgesia is required

assessment and prescription of analgesics (which this audit looked at), but this does not reflect good pain relief. Bringing about a change in clinical practice is a challenge and may not always happen at the desired pace.

However, it is encouraging that the educational intervention resulted in better prescribing of analgesics, suggesting that specific educational interventions can result in better patient care.

Conclusion

Our audit showed improvements in correctly following WHO analgesic combinations and prescribing breakthrough analgesics but not in documenting pain. Clinical audits and teaching interventions such as teaching sessions, use of pocket guidelines and posters are effective in improving patient care. Our audit revealed that existing practices of pain assessment and documentation are poor, and need to be focused on and improved. Documentation of pain as the fifth vital sign, introduction of pain score forms/charts and training nurses in pain assessment are important ways to optimize pain management.

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