

Study of Prescription Pattern of Analgesics in Terminally Ill Cancer Patients with Solid Tumors in a Tertiary Care Centre: A Retrospective Study

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Abstract

Background: This study evaluated the prescribing pattern of analgesics in very terminal ill cancer patients who succumbed to their illness in a tertiary care hospital. **Methods:** This retrospective study was conducted in the Medical Records Department by observing for the type of cancer and previous treatment, details on recurrence/metastasis, co morbidities, pain when got admitted and the analgesics prescribed. The details were tabulated and subjected to frequency and percentage analysis. **Results:** In total, there were 173 deaths due to cancer during the study period (48% female, and 52% males). Most patients were in the age group of 41 to 50 and from town background (44.5%). Co morbidity was observed only in 24.6% of the patients and hypertension was the most commonly observed (13.3%). Most of the admission was due to complications of advanced cancer and metastasis. A range of analgesics were used to mitigate the pain. Tramadol alone (31.2%) was used in the maximum number of cases followed by morphine (26%). Combination of paracetamol and tramadol, tramadol and morphine and all the three were also used. Morphine alone (26%) and or in combination with other analgesics (7.4%) was also used. Morphine tablets were the most prescribed over the injections. **Conclusions:** Analgesics have been increasingly prescribed in very terminally ill people with cancer. However, morphine was relatively under-prescribed. Relevant studies need to be carried out to determine the barriers for using morphine through prospective studies.

Keywords: Very Terminally Ill Cancer Patients; Pain; Analgesic; Paracetamol; Tramadol Morphine.

Introduction

In cancer, pain is a major issue and reports indicate that up to 86% in patients with advanced disease and 35% of the cancer survivors endure unbearable pain [1-3]. Under these circumstances, effective pain relief is of cardinal importance and also a primary ethical obligation of the treating doctors [3]. In these situations, opioids and morphine is specific is the pharmacologic sine qua non of intolerable pain management and the mainstay analgesic in treating end of life patients [2-4]. Unfortunately, the use of morphine has often been crowded with controversy and the misconception and numerous misunderstandings

present a barrier to effective pain management [4]. Some of the most common misconceptions are that morphine is addictive, has a narrow therapeutic range, is not effective when administered orally, induces nausea and causes respiratory depression [4].

Consequently these misconceptions have lead to inadequate pain management and suffering to the patient [4]. In reality, morphine are very ideal analgesics as they are available world-wide are relatively cheap, safe when used judiciously and most effective pain medicine for most moderate to severe pain [4]. To substantiate this innumerable studies have now shown that morphine are useful as potent analgesic and in 1986, the World Health

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Organization (WHO) recommended its judicious use as the drug of choice for the treatment of severe chronic pains, including in cancer pain [1-3].

Drug utilization studies that focus on the factors related to prescription and dispensing the medication, administration and intake of medication, and the associated events are vital in end of life care [5]. Additionally, the World Health Organization (WHO) has prescribed a set of core drug use indicators that are useful for studying patterns of drug prescribing in health care facilities [6]. These studies help evaluate if the drugs used are rational or not and also help to take right decision by the treating physician and the hospital [5]. In this retrospective study, we analyzed the prescription pattern of morphine in people who were terminally ill and succumbed to their disease in the hospital.

Materials and Methods

This was a retrospective data based study and was conducted with the support of Medical Records department of Father Muller Medical College Hospital Mangalore. The study was approved by the institutional ethics committee. The inclusion criteria were that the patient had to be admitted for their advanced cancer and had been treated for a minimum of one day in the inpatient services before succumbing to their illness in the calendar year of 2015. The exclusion criteria include patients who

succumbed to other ailments, suicide or death due to accidents, cancer patients who were brought dead to the facility and ones who recovered and got discharged. The MRD provided the list of cancer patients who succumbed to their illness. The files that satisfied the inclusion criteria were selected and were thoroughly reviewed by two student investigator and a senior pharmacologist. The necessary details were entered in a present proforma sheet. The data were then entered in Microsoft excel program and imported in to statistical program (SPSS version 23) for descriptive statistics analysis.

Results

The results of the study are represented in Table 1 to 4 and Figures 1 to 3. As observed majority of the patients were from urban area (86%), men (52%) and in the age group of 41 to 60 (55%) group (Table 1). The previous treatment availed by the patients before being admitted in end of end of life/terminal stages is depicted in Figure 1. Majority of the patients admitted were of breast cancer (38.2%) followed by cancer of the gastrointestinal system (30.6%) (Table 2). The details and number on people afflicted with one or more co-morbiditis are enlisted in Table 2. The details on regrowth and metastasis and cause of death are enlisted in Table 3 and Figure 2-3. The details on the pain and the array of analgesics used, either alone or in combination are all enlisted in Table 4.

Table 1: Sociodemographic and other details

	Details	Frequency (Percent)
Gender	Females	83/173 (48.0)
	Men	90/173 (52.0)
Age	Less than 40	20/173 (11.6)
	41-50	50/173 (28.9)
	51-60	45/173 (26.0)
	61-70	36/173 (20.8)
	More than 70	22/173 (12.7)
Place	Village	24/173 (13.9)
	Town	77/173 (44.5)
	City	72/173 (41.6)

Table 2: Details on cancer and co morbidities

	Details	Frequency (Percent)
Cancer	Breast	66/173 (38.2)
	Gastrointestinal (Head and Neck, Esophagus, Liver, Pancreases, Gastric, Colon, Rectum)	53/173 (30.6)
	Lung	49/173 (28.3)
	Urogenital (Bladder, prostate, cervix)	5/173 (2.9)
Co morbidities	No co morbidity	130/173 (75.1)
	TB	4/173 (2.3)

	Malaria	1/173 (0.6)
	DM	16/173 (9.2)
	HTN	23/173 (13.3)
	IHD	7/173 (4.0)
	Asthma	1/173 (0.6)
	CVA	3/173 (1.7)
	CKD/renal dysfunction	2/173 (1.1)
	COPD	3/173 (1.7)
	SVS syndrome	1/173 (0.6)
	Neuro disorder/ seizure	2/173 (1.1)
Number of co morbidities	Nil	130/173(75.1)
	People with co morbidities	43/173 (24.9)
	One co morbidity	26/43 (60.5)
	Two co morbidities	15/43 (34.9)
	Three co morbidities	1/43 (2.3)
	Four co morbidities	1/43(2.3)

Table 3: Details on cancer regrowth, metastasis

	Details	Frequency (Percent)
Details on Regrowth and Metastasis	Recurrence/regrowth	35/173 (20.2)
	Metastasis	87/173 (50.3)
	Metastasis to one site	13/87 (14.9)
	Multiple metastasis	74/87 (85.1)
	Metastasis to Bone	60/87 (69.0)
	Metastasis to Lung	34/87 (39.1)
	Metastasis to Liver	46/87 (52.9)
	Metastasis to Brain	11/87 (12.6)
	Metastasis to other parts	18/87 (20.7)

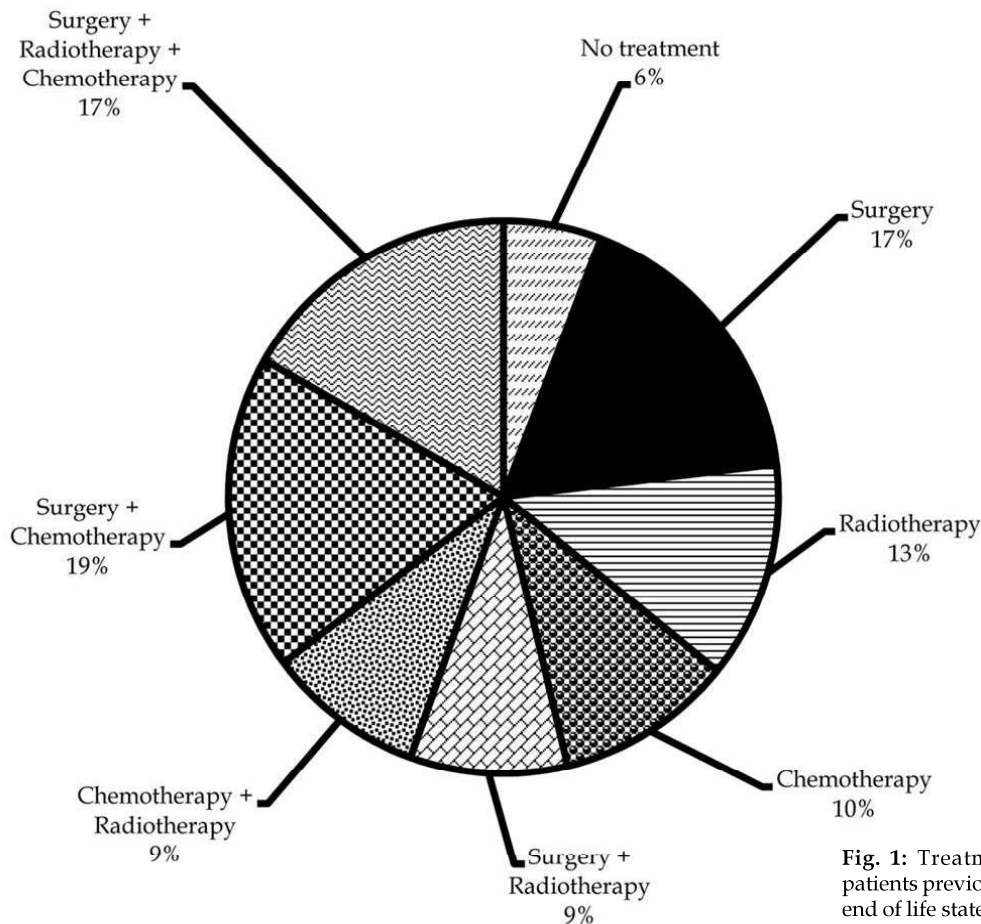


Fig. 1: Treatment undertaken by the patients previous to being admitted with end of life state (n = 173)

Table 4: Details on pain and analgesic use

	Details	Frequency (Percent)
Pain	Medium	113/173 (65.3)
	Severe	9/173 (5.2)
	Very severe	51/173 (29.5)
Analgesic	Paracetamol only	1/173 (0.6)
	Diclofenac only	31/173 (17.9)
	Tramadol only	54/173 (31.2)
	Morphine only	45/173 (26.0)
	Paracetamol + Tramadol	28/173 (16.2)
	Tramadol + Morphine	11/173 (6.3)
	Paracetamol + Tramadol + Morphine	2/173 (1.1)
Morphine	No morphine	115/173 (66.5)
	Tablets	40/173 (23.1)
	Injection	18/173 (10.4)
Morphine + Other analgesics	Morphine	45/173 (26.0)
	Tramadol + Morphine	11/173 (6.3)
	Paracetamol + Tramadol + Morphine	2/173 (1.1)

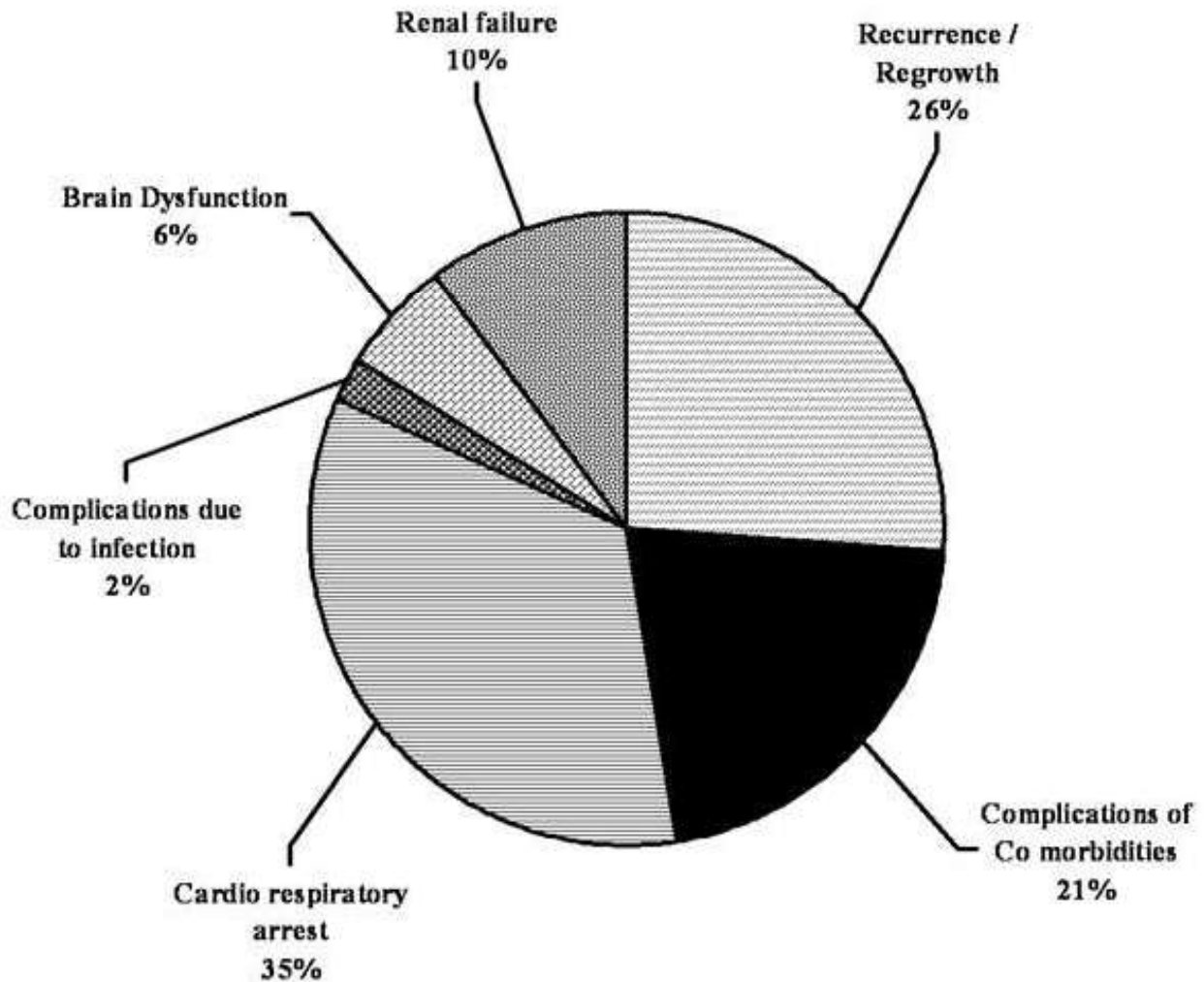


Fig. 2: Details on the cause of death in the study population (n = 173)

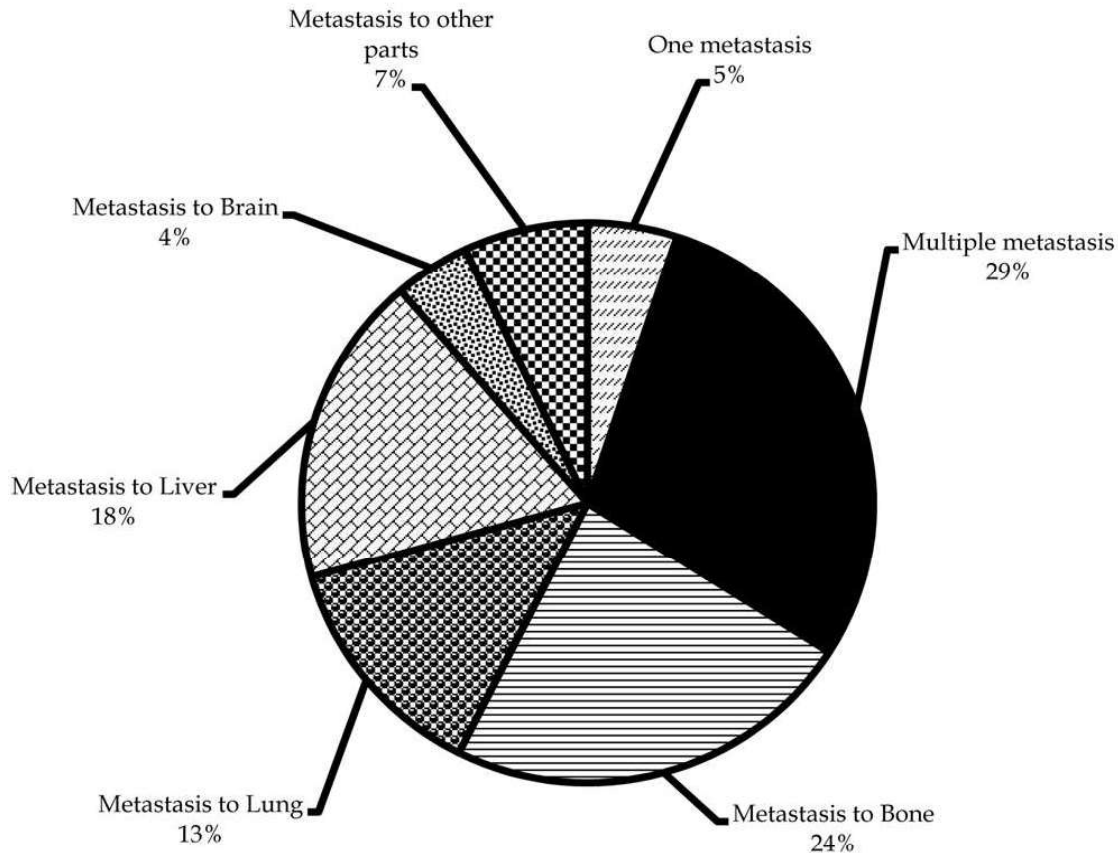


Fig. 3: Details on Metastasis in the study population (n = 87)

Discussion

Rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time and at the lowest cost to them and their community [WHO, 1987] [7,9]. Suboptimal pain control can be very debilitating [1]. Patients and their families tend to be under great distress after the diagnosis of cancer [2]. Although many of these patients carry a very poor prognosis, prompt and effective pain control can prevent needless suffering, may significantly improve the quality of their lives, and may potentially spare families the feeling of helplessness and despair [1-4]. Although cancer can be a terminal disease, there should be no reason to deny a patient the opportunity to live productively and free of pain [7,8].

Severe pain can interfere with physical rehabilitation, mobility, and proper nutrition. A significant number of cancer patients are subsequently diagnosed with depression. Therefore,

the goals of pain control in any patient with cancer should be to optimize the patient's comfort and function while avoiding unnecessary adverse effects from medications [5-8]. The correct use of opioids for managing cancer pain must be balanced against opioid fears, especially with concerns about an epidemic of abuse and overdose deaths involving prescription opioids [9]. In the United States, the medical use of opioids has increased 10-fold since 1990 [10].

Drug use at the end of life widely varies at each setting, in cases of both potentially appropriate and inappropriate medications [11]. Hospices specialize in symptom management and in providing the best palliative care for dying patients [1-2]. Culture-based differences in hospice management of end-of-life care patients have been observed. In some countries a substantial number of patients are sedated when approaching death [12]. In Finland the practice in the use of terminal sedation may be more conservative. Palliative care and end-of-life care has only come to focus during the last years on a national level. More training and education in this area is required [13].

The present study was conducted in order to improve the understanding between practices in specialized cancer care and hospice management of terminal cancer and in particular to study trends in pain management with approaching death. In this study it was observed that the analgesic use pattern was different and that morphine was used only in 35% of the patients and under-prescribed. This is an aspect that needs great attention.

The major limitations of our study are as follows: The study was retrospective, and could not evaluate analgesic prescriptions in relation to pain prevalence and intensity because data availability was restricted. Second it was a study from a single center and included consecutive patients. Thirdly, we took into consideration the last prescribed opioid dose before death rather than the actual dose received because the majority of our patients died at home.

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