

Pain evaluation in cancer patients admitted to a teaching hospital of the Northeastern region of Brazil*

Avaliação da dor em pacientes oncológicos internados em um hospital escola do nordeste do Brasil

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ABSTRACT

BACKGROUND AND OBJECTIVES: Pain is a consequence of cancer generating distress and decreased quality of life. It is a poorly managed and neglected symptom by physicians and other health professionals worldwide. Effective pain management is everyone's duty and a patient's right. This study aimed at describing pain control in patients admitted to the Clinical Oncology Ward.

METHODS: This is a prospective cross-sectional study carried out from May 2010 to October 2011.

RESULTS: Participated in the study 150 patients, being 65.3% females and 81% aged above 40 years. Most common tumors were cervical cancer (15.3%) and advanced disease (80.6%). Pain was classified as visceral for most patients (46.7%). Common analgesics (90.7%), strong opioids (51.3%), palliative sedation (4%) and non-pharmacological therapy (34.1%) were used to control pain. There has been a high number of patients with uncontrolled pain at admission (70%) and with adequate control in the last day (84%). Neuropathic pain was more frequent among patients above 60 years of age where there has also been less control.

CONCLUSION: There has been a higher prevalence of female patients with cervical cancer and with more advanced disease. Most frequent pain was nociceptive and visceral, however neuropathic pain was the most difficult to control. The conclusion was that there has been adequate pain control in patients admitted to the cancer ward.

Keywords: Analgesia, Pain, Pain measurement, Therapy.

RESUMO

JUSTIFICATIVA E OBJETIVOS: A dor é uma das consequências do câncer, que gera sofrimento e diminuição na qualidade de vida. É um sintoma mal conduzido e negligenciado por médicos e outros profissionais de saúde em todo o mundo. O manuseio eficaz da dor é um dever de todos e um direito do paciente. O objetivo deste estudo foi descrever o controle da dor nos pacientes internados na Enfermaria da Oncologia Clínica.

MÉTODOS: Foi realizado um estudo prospectivo do tipo corte transversal, no período de maio de 2010 a outubro de 2011.

RESULTADOS: Foram estudados 150 pacientes, 65,3% do sexo feminino e 81% com idade acima de 40 anos. As neoplasias mais encontradas foram câncer do colo uterino (15,3%), e com doença avançada (80,6%). A dor foi classificada como visceral na maioria dos pacientes (46,7%). Para controle da dor foram utilizados fármacos analgésicos comuns (90,7%) e opioides fortes (51,3%), sedação paliativa (4%) e terapia não farmacológica em 34,1% dos pacientes. Houve alta taxa de pacientes com dor não controlada no momento inicial da internação (70%), e com controle adequado no último dia (84%). A dor neuropática foi mais frequente em pacientes maiores de 60 anos e houve menor controle.

CONCLUSÃO: Houve maior prevalência de pacientes do gênero feminino, com câncer de colo uterino, e com doença mais avançada. A dor mais encontrada foi nociceptiva, de caráter visceral, no entanto, a dor neuropática foi de mais difícil controle. Concluiu-se que houve um controle adequado da dor nos pacientes internados na enfermaria de oncologia.

Descritores: Analgesia, Dor, Medição da dor, Terapia.

INTRODUCTION

Cancer is a major cause of death worldwide¹. One consequence of cancer is pain which, in addition to suffering, decreases quality of life². The World Health Organization (WHO) recommends that all painful patients should receive adequate analgesia and that effective pain control may be obtained in 90% of patients³. However pain is still a poorly managed and neglected symptom by physicians and other health professionals worldwide⁴. WHO data show that more than 70% of all cancer deaths occur in low and middle in-

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Submitted in May 27, 2013.

Accepted for publication in November 27, 2013.

Conflict of interests: None.

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come countries. These countries have a high number of patients who are diagnosed at advanced stages, when pain is a very prevalent symptom¹.

The prevalence of pain among cancer patients is estimated between 25 and 50% for recently-diagnosed patients, between 33 and 80% for patients being treated and approximately 75% to 100% for those in advanced or terminal stages⁵. Pain mechanisms are related to the primary tumor or to metastases, to anticancer therapy and diagnostic methods, in addition to being sometimes related to psychosocial causes⁶. WHO shows approximate figures of 10 to 17 million new cases of cancer/year worldwide. From these, approximately 50% will die and around 70% of cancer patients will suffer chronic pain, being 70% with moderate to severe pain and 30% with severe pain¹. A major problem in managing pain is the difficulty to diagnose and measure it. WHO recommends that pain should be treated by steps guiding the therapeutic choice according to its intensity³. To minimize the difficulties of evaluating pain, WHO and the International Association for the Study of pain (IASP) have created tools (scales) aiming at establishing an international standard to translate a subjective symptom into objective data, thus guiding pain management³. Effective pain management is a duty of all health professionals and a right of patients.

This study aimed at describing pain evaluation and management in cancer patients admitted to the Institute of Integral Medicine Prof. Fernando Figueira (IMIP).

METHODS

This was a prospective cross-sectional study carried out in the institution from May 2010 to October 2011. Inclusion criteria were patients admitted to the Clinical Oncology ward during the week, aged 18 years or above who, during hospitalization, presented cancer-related pain. Patients admitted during weekends were not included. Exclusion criteria were patients with cognition disorders or other clinical conditions preventing them of understanding the visual analog scale (VAS). Cancer-related pain was considered pain associated to primary tumor or metastases, to anticancer therapy and to diagnostic methods. Data were collected with a questionnaire applied to patients. Interviews were carried out in the hospitalization day, which corresponded to day zero, and in days 2, 4 and 8, depending on their length of stay.

The following variables were collected to characterize the sample: gender, age, baseline disease (tumor), staging (based on Union for International Cancer Control (UICC) criteria). Pain was characterized according to its intensity and type. VAS was used to measure intensity. In this scale numbered from zero to 10, zero corresponds to no pain and 10 to maximum pain felt by patients. For analysis purposes, pain was classified in mild (VAS = 0-3), moderate (VAS = 4-6) and severe (VAS = 7-10). Type of pain was classified according to the quality of the physiological stimulation in nociceptive (visceral and somatic), neuropathic, sympathomimetic or mixed (association of characteristics of two or more types of

pain), according to pain characteristics described by patients during the interview.

We have also evaluated the use of analgesic drugs (common analgesics, weak and strong opioids, adjuvant drugs), of bisphosphonates, palliative sedation, non-pharmacological approaches (surgical intervention, radiotherapy, others) and pain management adequacy. Types of cancer and their staging were also evaluated according to the Malignant Tumors Classification (TNM). Pain was considered adequately managed when patients, after starting treatment, referred no pain or mild pain (VAS = 0-3).

This study was approved by the Ethics Committee for Research with Human Beings of the Institute of Integral Medicine Prof. Fernando Figueira, Recife/PE, protocol n. 1748/2010.

RESULTS

Participated in the study 150 patients of whom 65.3% were females and 34.7% were males. Most (81%) patients had more than 40 years of age, being that 42% were 60 years old or above. Most had advanced disease stage IV (80.6%) (Table 1).

Table 1. Epidemiological profile of painful patients admitted to the clinical oncology ward.

Variables	n	%
Age (years)		
< 40	28	18.7
40 – 60	59	39.3
≥ 60	63	42.0
Gender		
Male	52	34.7
Female	98	65.3
Staging (TNM)		
I	1	0.7
II	6	4.0
III	22	14.7
IV	121	80.6

TNM: Malignant Tumors Classification; (T: primary tumor, N: lymph nodes, M: metastases).

Most common cancers were: cervical (15.3%), breast (10.1%) and prostate (8.7%) (Table 2).

Table 2. Distribution of most frequent diagnoses of painful patients admitted to the clinical oncology ward

Most frequent diagnoses	n	%
Cervical cancer	23	15.2
Breast cancer	16	10.6
Prostate cancer	13	8.6
Linfoma	10	6.7
Cancer in undertermined area	10	6.7
Others	78	53.2

The analysis has shown that from 150 evaluated patients, 70 (46.7%) had visceral pain, 35 (23.3%) had somatic pain, 26 (17.3%) had neuropathic pain and 19 (12.7%) had mixed pain (Figure 1).

Among most common drugs to control pain, non-opioid analgesics were administered more often (90.7%), followed by strong opioids in 51.3% of cases. Adjuvant analgesics were used in 31.3% of cases and in 4% of patients have received palliative sedation. Patients with neuropathic pain used more strong opioids (76.9%) and 61.5% of patients have used adjuvant drugs (Figure 2).

Bisphosphonates were used in 12.7% and non-pharmacological therapy (radiotherapy, surgery) in 34.7% of patients. One patient used acupuncture (0.7%). Neuropathic pain patients were more submitted to radiotherapy (42.3%) and bisphosphonates (38.5%) (Figure 3).

With regard to pain control there has been a high rate of patients with uncontrolled pain (70%) at admission (day zero). Pain control rate has improved in subsequent days 2, 4 and 8, being that for 84% of patients pain control was considered adequate and 15% had uncontrolled pain (Figure 4).

With regard to type of pain, the incidence has varied according to patients' age. Somatic, visceral and mixed pains have predominated among patients below 60 years of age, while neuropathic pain was more frequent among patients above 60 years of age (62%). Patients with neuropathic pain had poorer pain control in the last study day (D8) with 29.4% of uncontrolled pain.

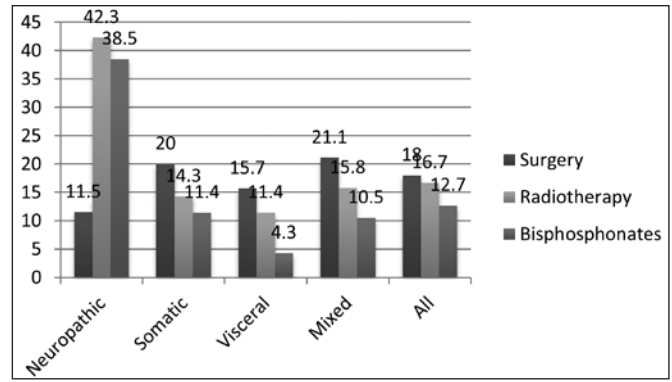


Figure 3. Percentage distribution of types of treatments and non-analgesic drugs (bisphosphonates) according to the type of pain of admitted patients

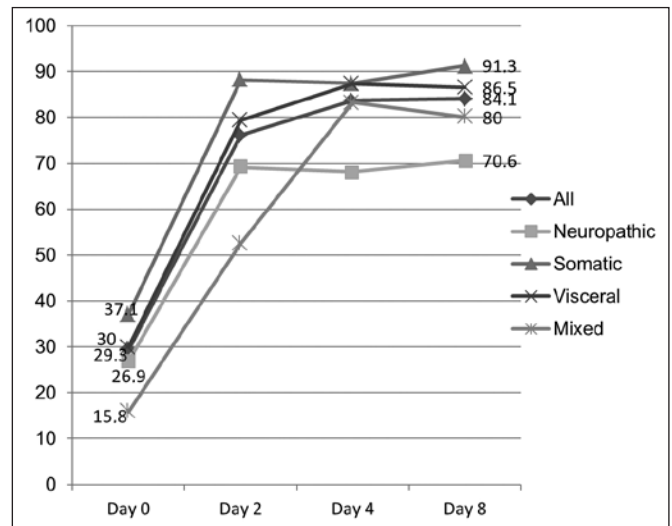


Figure 4. Pain control rate according to admission day (D₀, D₂, D₄ and D₈) of patients admitted to the clinical oncology ward with different types of pain

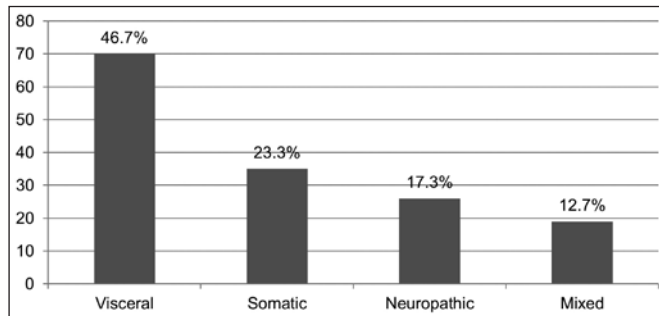


Figure 1. Distribution of types of pain of painful patients admitted to the clinical oncology ward (n=150)

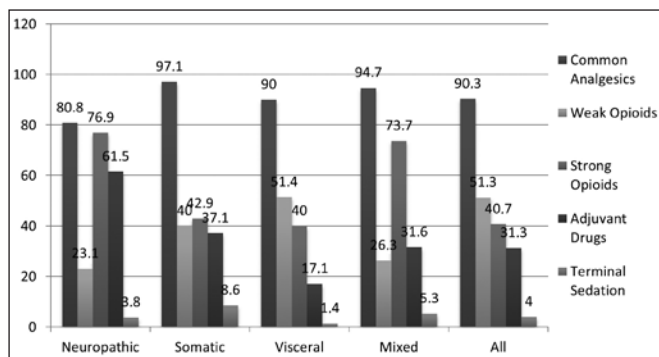


Figure 2. Percentage distribution of types of pharmacological treatments used according to the type of pain of admitted patients

DISCUSSION

Epidemiological data analysis has shown that among painful patients admitted to the ward, most were females. These data are in line with the literature which shows gender differences in nociceptive responses and pain perception (acute and chronic) in human beings, with higher prevalence among females⁷. There are biological and psychosocial contributions for gender differences in response to pain.

Our study has shown that 81.3% of patients were above 40 years of age and 42% were above 60 years of age, in line with other studies which show the association of cancer and its complications to increased age⁸. The elderly have higher incidence of oncologic diseases, which may be explained by the long exposure to cancer agents, such as alcohol and tobacco, and exposure to viral or bacterial infections, as well as by the failure of cell injury control and repair mechanisms. In general, diagnosis is later, with diseases in more advanced stages and with the presence of metastases⁹.

A worrisome data is that 95.3% of patients had diseases stages III or IV, that is, the more advanced according to UICC staging classification. Several studies have related increased incidence of cancer pain to patients' clinical condition (status performance) and to the advanced stage of the disease⁹. More advanced stages of the disease are associated to more extensive disease, compression of adjacent organs and higher incidence of bone metastases, among others.

In our study, most prevalent tumors were: cervical cancer (15.2%), breast cancer (10.6%) and prostate cancer (8.6%). The higher incidence of cervical cancer is explained by the fact that the city of Recife and the Northeastern region have high incidences of cervical cancer as compared to other Brazilian and worldwide regions. Estimates of the National Cancer Institute (INCA) for 2012 were 17,540 cases of this tumor in Brazil and from these, 5,050 (28%) in the Northeastern region and 970 (6%) in the state of Pernambuco¹⁰. Brazilian estimates for 2012 according to INCA were 52,680 cases of breast cancer and 2,310 cases of prostate cancer in Pernambuco¹⁰.

At admission (day 0), most common types of pain were visceral and somatic (nociceptive). Nociceptive pain is most frequently found in cancer patients and the direct involvement by the tumor is the primary cause (70%). In 17% this pain was related to anticancer therapy¹¹. Another aspect was that nociceptive pain (somatic and visceral) has prevailed among patients below 60 years of age, while neuropathic pain was more frequent among the elderly.

With regard to therapies, common analgesics (90.7%) and strong opioids (51.3%) were the most commonly used drugs. Adjuvant analgesics were needed for 31.3% of patients, 16.7% were submitted to some surgical procedure for analgesic purposes and 18% have received radiotherapy. Only 4% of patients in this study were submitted to terminal sedation due to refractory pain. These results show that strong opioids have been widely used to treat admitted patients. These data differ from WHO which states that morphine and derivatives are underused worldwide and in Brazil¹¹.

WHO uses morphine consumption in milligrams per capita, as the indicator of pain management quality, reporting mean consumption of 5.98 mg/per capita worldwide and 3.51 mg/per capita in Brazil¹². The wider use of strong opioids in these patients may be justified by the high number of patients with advanced tumor (90%), by the high percentage of severe and moderate pain (70.7%) and by the presence of protocols which, in oncology, orient for more aggressive pain therapy.

With regard to pain control, at admission 70.7% of patients had uncontrolled moderate to severe pain. The high prevalence of severe pain at admission was also observed by other authors.

A study¹³ reviewing studies from the last 30 years has shown prevalence of pain at initial interview of 43 to 91%, and of moderate to severe pain in 17 to 88.5%. In subsequent evaluations, pain control on day 8 was considered adequate for approximately 86.5% of patients with visceral pain, 91.3% of those with somatic pain, 70.6% of patients with neuropathic

pain and 80.0% of patients with mixed pain.

Several studies have shown that 25% of neuropathic pains are not controlled even in excellence centers⁴⁻¹⁴. Neuropathic pain is difficult to treat and in general there is the need for the association of pharmacological and non-pharmacological therapies for its adequate control¹⁴. A study¹⁵ has observed 50% of pain control with a single drug. Among patients with neuropathic pain, 61.5% have received adjuvant drugs, 76.9% strong opioids, 42.3% were submitted to radiotherapy and 38.55 have received bisphosphonates. Strong opioids for neuropathic pain patients have variable response and are less effective¹⁶. Authors¹⁶ have shown that high opioid doses are needed to control neuropathic pain with consequent increase in side effects. The association of drugs such as anticonvulsants and/or antidepressants, opioids and steroids is the best way to treat this type of pain and should be a strategy encouraged for its better control.

Data show the difficulty of health professionals in managing painful patients. Two studies have reported health professionals' qualification to manage pain. A study reports that 50% of USA physicians believe they are poorly prepared and 27% that they are very unprepared to manage pain¹⁷, while a different study reports that up to 80% of medical students worldwide are not trained in the use of opioids¹⁸. These data show health professionals' learning deficit with regard to analgesia and that pain is still a poorly managed symptom.

The major bias of this study is that it has been developed in an oncology ward, in a hospital admitting low social condition patients in a city with precarious basic health attention. This might have increased the incidence of cervical tumors, more advanced diseases and also uncontrolled pain. A multi-dimension scale could have been used to evaluate pain, but we decided for VAS because WHO itself recommends it because it is simple and easy to understand.

CONCLUSION

There has been adequate pain control of patients admitted to the oncology ward of this institution, with higher prevalence of females with cervical cancer and more advanced disease. Most frequent pain was nociceptive visceral pain, however neuropathic pain was more difficult to control. The reproduction of this study by other institutions may generate further knowledge and learning about analgesia, thus improving cancer patients' treatment.

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