CHARACTERZING THE USE OF PALLIATIVE DRUGS ON 57 CANCER PATIENTS, AT DATEH DISTRICT HEALTH CENTER, LAMDONG PROVINCE

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ABSTRACT

Purpose: *We aimed to characterize the use of palliative drugs in cancer patients, treated at the Dateh District Medical Center, Lamdong province. In order to further clarify the effect of drugs in palliative treatment for cancer patients.*

Methods: *Retrospective, cross-sectional descriptive study.*

Results: *The proportion of patients using palliative drugs from the time of admission to the end of the study: 3rd class analgesics increased from 42.11% to 71.93%; 1st class analgesics decreased from 28.07% to 12.28%, and 2nd from 36.84% to 15.79%. The majority of patients used 2 drugs (54.39%), followed by 1 drug (24.56%) and 3 drugs (21.05%).*

The dosage of palliative drugs used is within the recommended limits. Drug route: at the time of admission, the majority of patients used drugs orally (50.88%), followed by intramuscular injection (31.58%), intravenous infusion (15.79%) and penetrates through the skin (1.75%). At the end of the study, the majority of patients received the drug intramuscularly (49.12%), followed by intravenous infusion (24.56%) and oral (22.81%).

Keywords: Palliative treatment, cancer.

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1. INTRODUCTIONS

Cancer is one of the diseases with the highest mortality rate in the world. Cancer pain is a common symptom, a complex syndrome that medicine has been investigating. Hensel M's study found that up to one-third of cancer patients complain of pain during the disease and about 70-80% of patients with advanced cancer have pain [1]. Therefore, it is very important to recognize and treat pain for cancer patients at all stages of the disease, helping to improve and improve quality of life. Palliative treatment for cancer patients often combines many treatment measures, such as counseling, exercise, nutrition, drug therapy...

Among the measures mentioned, palliative treatment for cancer patients with drugs plays an important role, helping to improve pain symptoms - the patient's basic problem, improve psychological well-being, and support the patient's spirit.

To further clarify the effect of drugs in palliative treatment for cancer patients, we conducted this study to characterize the use of palliative drugs in cancer patients, treated at the Dateh district Health Center, Lamdong province.

2. SUBJECTS AND METHODS

2.1. Subjects

57 cancer patients, using palliative drugs at Dateh district Health Center, Lamdong province, from January 1, 2021 to March 1, 2021.

Excluding hospitalized patients; Patients with a history of opioid addiction or dependence; Patients do not comply with treatment (arbitrarily changing the dose, arbitrarily using other pain relievers when not prescribed by the doctor); Patients with psychotic symptoms or patients who do not cooperate with the study; Patient or family member did not consent to participate in the study.

2.2. Methods

- Study design: Retrospective, cross-sectional description.

- Research method: Retrospective medical ecords of cancer patients with indications for the use of palliative drugs, inpatient treatment at Dateh district Health Center, Lamdong province. Conduct data collection, compare information according to research objectives.

- Research goals:

+ Pain relievers used in patients.

+ Adjuvant drugs (combined treatment), except pain relievers.

+ Treatment plan.

+ Dosage of drugs.

+ Drug route.

Comparison of research indicators on patients at the time of admission and at the end of the study.

- Research ethics: Information about research subjects is kept confidential and used only for scientific research purposes.

- Data processing: using SPSS 22.0 biomedical statistical software.

3. RESULTS

Table 1. Analgesic drugs used in patients (n = 57)

Drug name		Just hospitalized	End of study	p
Level 1 class pain reliever	Acetaminophen	9 (15.79%)	3 (5.26%)	< 0.001
	Ibuprofen	3 (5.26%)	2 (3.51%)	
	Diclofenac	1 (1.75%)	1 (1.75%)	
	Etodolac	1 (1.75%)	1 (1.75%)	
	Ketoprofen	2 (3.51%)	0	
Level 2 class pain reliever	Tramadol	21 (36.84%)	9 (15.79%)	
Level 3 class pain reliever	Morphine	15 (26.32%)	27 (47.37%)	
	Hydromorphone	8 (14.04%)	12 (21.05%)	
	Fentanyl	1 (1.75%)	2 (3.51%)	

When newly hospitalized for treatment: 16/57 patients (28.07%) received palliative treatment with first-line analgesics; 21/57 patients (36.84%) received palliative treatment with second-line analgesics and 24/57 patients (42.11%) received palliative treatment with third-line analgesics.

At the end of the study, the number of patients using tertiary analgesics increased (up to 71.93%), the number of patients using primary and secondary analgesics decreased (to 12.28% and 15.79%, respectively). The difference in the use of first-, second- and third-class analgesics of patients at the time of admission and at the end of the study was statistically significant ($p < 0.05$).

Table 2. Adjuvant - combination therapy (n = 57)

Type of medicine	Just hospitalized	End of study	p
Dexamethasone	17 (29.82%)	29 (50.88%)	< 0.001
Haloperidol	7 (12.28%)	12 (21.05%)	
Gabapentin	8 (14.04%)	9 (15.79%)	
Buscopan	6 (10.53%)	15 (26.32%)	
Midazolam	14 (24.56%)	21 (36.84%)	
Pamidronate	4 (7.02%)	9 (15.79%)	

The proportion of patients using other supportive treatment drugs (except pain relievers) increased from the beginning of treatment to the end of the study.

- Treatment regimen:

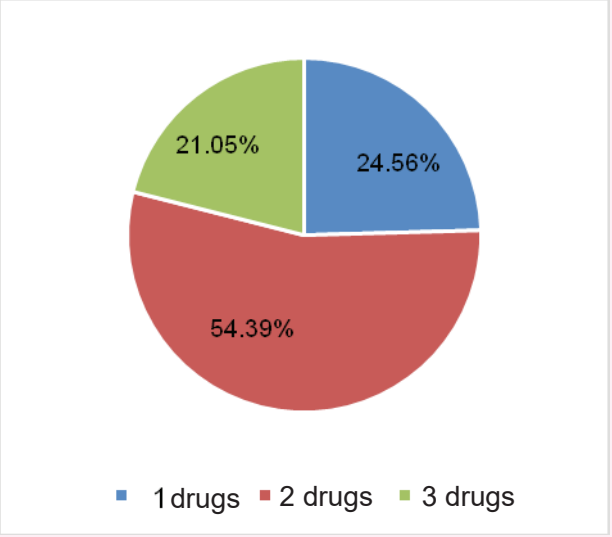

Diagram 1. Treatment regimen

The majority of patients used 2 drugs for combination therapy (54.39%), followed by patients using 1 combination drug (24.56%) and patients using 3 drugs for combination therapy (21.05%).

Table 3. Average drug dose

Drug name	Medium (mg/day)	Standard deviation (SD)
Acetaminophen	2,951	971.1
Ibuprofen	1,954	297.2
Diclofenac	152	14.1
Etodolac	1,012	312
Ketoprofen	185	11.7
Tramadol	451	85.2
Morphine	55.7	4.01
Hydromorphone	11.2	1.24
Fentanyl	0.755	0.0132
Dexamethasone	14.2	1.15
Haloperidol	3.1	0.97
Gabapentin	926	42.1
Buscopan	72	17
Midazolam	28.1	0.75
Pamidronate (4 week/time)	72.3	9.12

Dosages of palliative drugs are within recommended limits.

According to table 4: At the time of admission, the majority of patients used oral palliative drugs (50.88%), followed by intramuscular injection (31.58%). At the end of the study, the majority of patients used palliative drugs by intramuscular route (49.12%), followed by intravenous (24.56%) and oral (22.81%).

Table 4. Route of administration (n = 57)

Usage route	New hospitalize	End study
Penetrates through the skin	1 (1.75%)	2 (3.51%)
PO	29 (50.88%)	13 (22.81%)
IM	18 (31.58%)	28 (49.12%)
IV	9 (15.79%)	14 (24.56%)

4. DISCUSSIONS

- Analgesics used for treatment: Results of the study showed that, when the patients were newly admitted to the hospital, 28.07% of patients received palliative treatment with first-line pain relievers, in which, the majority of patients used acetaminophen (15.79%), followed by ibuprofen (5.26%), ketoprofen (3.51%), diclofenac (1.75%) and etodolac (1.75%); 36.84% of patients received palliative treatment with second-line analgesics. At the end of the study, the number of patients receiving palliative treatment with first-line analgesics was 12.28%, of which the majority of patients used acetaminophen (5.26%), followed by ibuprofen (3.51%), ketoprofen (1.75%) and diclofenac (1.75%); 15.79% of patients used second-line analgesics. This is consistent with the use of analgesics according to the WHO 3-Tier Guidelines (hospitals need to incorporate multimodal and multidisciplinary approaches into the WHO Tri-Tier). Current CDC guidelines conclude that opioid analgesics are not first-line or routine therapy for the management of chronic pain in general and cancer in particular. Non-drug therapy and non-opioid drug therapy are preferred in the treatment of chronic pain [2]. This guideline aims to reduce the risk factors associated with long-term opioid use and improve the safety and effectiveness of pain management. The 2018 guidelines published by the American Society of Interventional Pain Physicians (ASIPP) recommended pharmacological and non-opiate treatments, such as acetaminophen or other NSAIDs, pregabalin, integrative medicine therapies and many minimally invasive techniques… [3].

In this study, at the beginning of treatment, 42.11% of patients received palliative treatment with opioid drugs, in which, the majority of patients were assigned to be treated with morphine (26.32%), followed by hydromorphone (14.04%) and only 1.75% of patients were assigned to use fentanyl. At the end of the study, the number of patients receiving palliation with strong opioids increased to 71.93%, morphine is still the main drug for palliation (47.97%), followed by hydromorphone (21.05%) and fentanyl (3.51%), the difference in palliative treatment with 3rd-order analgesics at the time of admission and at the end of the study was statistically significant ($p < 0.05$).

The study also showed that the rate of using first-line pain medication of cancer patients between the time of admission and the end of the study decreased (from 28.07% to 12.28%). The proportion of cancer patients using tertiary pain relievers between the time of admission and the end of the study increased (from 42.11% to 71.93%). This result is similar to the study results of Masman et al in 2015 (21% of patients used morphine at admission, but at the end of the study the rate of patients using morphine was 87% [4]); Nauck et al in 2013 (26% of patients received morphine on admission, but at the end of treatment, the rate of patients using morphine was 42% [5]). This makes perfect sense because terminal cancer patients have a higher need for palliative care.

- Combined adjuvant therapy groups: At the time of admission, the majority of patients received palliative treatment in combination with dexamethasone (29.82%), followed by midazolam (24.56%), gabapentin (14.04%), amitriptyline (12.28%), buscopan (10.53%), and pamidronate (7.02%). At the end of treatment, the proportion of patients receiving palliative treatment in combination with dexamethasone was 50.88%, midazolam was 36.84%, buscopan was 26.32%, haloperidol was 21.05%, gabapentin was 15.79% and pamidronate 15.79%. This indicates that the rate of using a combination of adjuvant and palliative drugs for patients at the time of admission increased at the end of the study. This is consistent with the study of Masman et al (2015) [4].

Midazolam is a benzodiazepine with sedative, anxiolytic, muscle relaxant, and anticonvulsant properties. Its lipid-soluble properties allow it to act rapidly, midazolam is commonly used in palliative care and is considered one of the four essential drugs needed to promote quality care of the dying patient. Acting on the benzodiazepine receptor promotes the action of gamma-aminobutyric acid, while, at the same time, gamma-aminobutyric acid promotes its sedative, anxiolytic and anticonvulsant properties [6]. Midazolam is also considered a first-line sedative, anxiolytic, muscle relaxant, and anticonvulsant because of its ease of reversal, allowing its use for alternative sedation and short-term palliative sedation [7].

Other supportive medications, such as anticonvulsants (gabapentin) are often used to control seizures, but they can also help control nerve-related pain; muscle relaxants (Buscopan) and anti-anxiety medications (Haloperidol) can be used with pain relievers if pain is aggravated by tension or muscle spasms. In cancer patients with bone metastases, adjuvant therapy with bisphosphonates (Pamidronate) is also used to prevent fractures. These drugs may play an important role in pain relief [8].

- Treatment regimen: The majority of patients used a combination treatment regimen of 2 drugs (54.39%), followed by 1 drug (24.56%) and 3 drugs (21.05%). 100% of patients indicated for palliative treatment with analgesics, of which, 42.11% indicated opioid use; this rate is lower than the research results of Koivu et al (89.9% [9]). This difference may be due to our sample including patients with early cancer.

- Average dose of drugs: First-line analgesics: mean dose of acetaminophen is 2,951 ± 971.1 mg/day, ibuprofen is 1,954 ± 297.2 mg/day, diclofenac is 152 ± 14.1 mg/day day, etoodolac is 1012 ± 14.1 mg/day, ketoprofen is 185 ± 11.7 mg/day; second-line analgesics: the average dose of tramadol is 451 ± 85.2 mg/day; 3rd-line analgesics: Mean dose of morphine is 55.7 ± 4.01 mg/day, hydromorphone is 11.2 ± 1.24 mg/day, fentanyl is 0.755 ± 0.0132 mg/day. According to Jane Vella-Brincat, the recommended starting dose of morphine is 0.5-2 mg/day, which is the

dose that can treat delirium in most patients. Furthermore, in elderly patients, a low starting dose is recommended to prevent neurological and cardiovascular effects [10].

The average dose of the adjuvant combination therapy: The mean dose of dexamethasone was 14.2 ± 1.15 mg/day, haloperidol was 3.1 ± 0.97 mg/day, gabapentin was 926 ± 42, 1 mg/day, buscopan 72 ± 17 mg/day, midazolam 28.1 ± 0.75 mg/day. For patients with bone metastases, the average dose of pamidronate was 72.3 ± 9.12 mg once every four weeks. In fact, the recommended starting dose of pamidronate is 0.5-2 mg/day, recommending a low starting dose in elderly patients to prevent neurological and cardiovascular effects [10].

- Drug route: At the time of admission, the majority of patients used drugs by mouth (50.88%), followed by intramuscular injection (31.58%), intravenous infusion (15.79%) and dialysis. penetrates the skin (1.75%). But at the end of the study, this rate changed significantly, specifically: 49.12% of patients received the drug by intramuscular route, followed by intravenous infusion (24.56%) and oral (22.81%). This result is similar to the study of Masman et al [4].

5. CONCLUSIONS

A study of 57 cancer patients, using palliative drugs at Dateh District Health Center, Lamdong province, from January 1, 2021 to March 1, 2021, concluded:

- At the start of treatment, there were 28.07% of patients using first-line analgesics, 36.84% of patients taking second-line analgesics and 42.11% of patients taking third-line analgesics 71.93% patients used pain reliever level 3; 15.79% patients used pain reliever level 2 and 12.28% patients used pain reliever level 1.

- Adjuvant drugs: The proportion of patients using supportive drugs increased from the beginning of treatment to the end of the study (dexamethasone increased from 29.82% to 50.88%, haloperidol from 12.28%) increased to 21.05%, buscopan from 10.53% to 26.32%, midazolam from 24.56% to 36.84%, pamidronate from 7.02% to 15.79%).

- Treatment regimen: The majority of patients used 2 drugs (54.39%), followed by 1 drug (24.56%) and 3 drugs (21.05%). The dose of palliative drugs is within the allowable limit.

- Drug route: At the time of admission, the majority of patients used drugs by mouth (50.88%), followed by intramuscular injection (31.58%), intravenous infusion (15.79%) and dialysis. penetrates the skin (1.75%). At the end of the study, the majority of patients used the drug intramuscularly (49.12%), followed by intravenous infusion (24.56%) and oral (22.81%).

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