

Medicines and their costs in the last six days of life

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Introduction and aims

Palliative care provides many advantages to patients who face life-threatening illness. Five most common symptoms that usually occur in the last days of life are pain, nausea and vomiting, restlessness, dyspnoea and respiratory tract secretions. Supportive therapy for pain and symptom relief should be incorporated into therapy to address these issues.

The aim of this retrospective study was to compare the use of medicines in the last six days of life in patients treated according to palliative or standard treatment pathway.

Patients and methods

Inclusion criteria was the treatment at the Institute of Oncology Ljubljana, Slovenia, within last 6 days of life and the diagnosis of advanced or metastatic cancer. 25 patients were included in the palliative treatment pathway (P), whereas 25 were treated according to standard treatment pathway and served as a control group (C). Both groups were comparable by the primary tumour site and median age of patients (for each patient in P, the patient in C was allocated with the same primary cancer and in the same age decade) (Table 1).

For each patient, the quantity of medicines received in last 6 days was counted, with a day of death marked as the day one. The therapy was evaluated financially by the pharmacy computer program.

Table 1. Distribution of patients in palliative (P) and control (C) group according to the primary tumor site.

	P	C
kidney, bladder	7	7
breast	4	4
colon, rectum	3	3
pancreas	3	3
malignant melanoma	2	2
throat, esophagus, stomach	2	2
uterus	1	1
peritoneum	1	1
brain	1	1
lungs	1	1
Σ	25 patients (σ 9, ♀ 16)	25 patients (σ 11, ♀ 14)
average age	65,6 years (43 – 83 years)	65,2 years (40 – 82 years)

Results

The average cost for medicines for one patient in the palliative care group was 15 € per day and 42 € per day for one patient in the control group (Table 2, Figure 1). The difference was also seen in number of medicines: patients were receiving on average 10.1 medicines in the palliative care group and 14.1 in the control group.

Table 2. The difference between palliative and control group in the cost and number for medicines received by terminally ill patients in the last 6 days.

	P	C
No. of patients	25	25
cost for medicines in 6 days	2.324 €	6.330 €
cost for medicines in 6 days per patient	93 € (7 – 244 €)	253 € (23 – 1.180 €)
average cost for medicines per patient per day	15 €	42 €
No. of registered medicinal products per patient	11,7 (4 – 20)	15,6 (6 – 41)
No. of medicines per patient	10,1 (3 – 15)	14,1 (6 – 35)

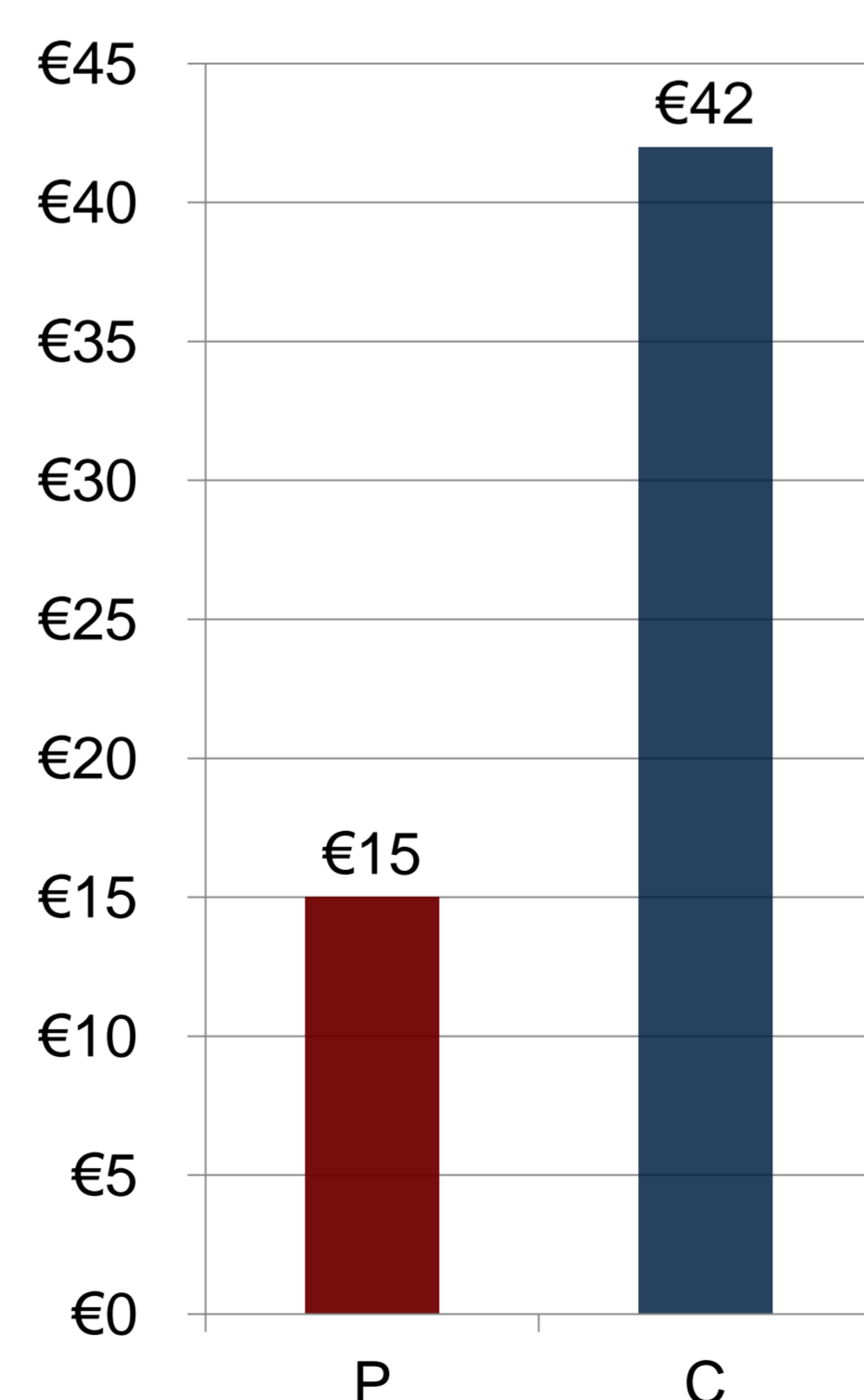


Figure 1. Average cost for medicines per patient per day.

The most frequently prescribed medicines were analgesics. The majority of patients in both groups were prescribed strong opioids (Figure 2). 5 patients in each group (20%) had a continuous subcutaneous infusion using an elastomeric pump. 1 patient in the palliative group was receiving analgesic mixture via epidural catheter.

Haloperidol, midazolam, dexamethasone, butylscopolamine and metoclopramide are the medicines which are routinely used to relieve the distressing symptoms before death and were prescribed in a slightly greater proportion to the patients in the palliative group (Figure 3). More patients in the control group were treated with weak opioids and non-opioids, proton pump inhibitors, low molecular weight heparins, systemic antibiotics and antifungals, and parenteral nutrition (Figure 2). The last two drug classes represent the largest cost difference between the two groups of terminally ill patients (Figure 4).

Results

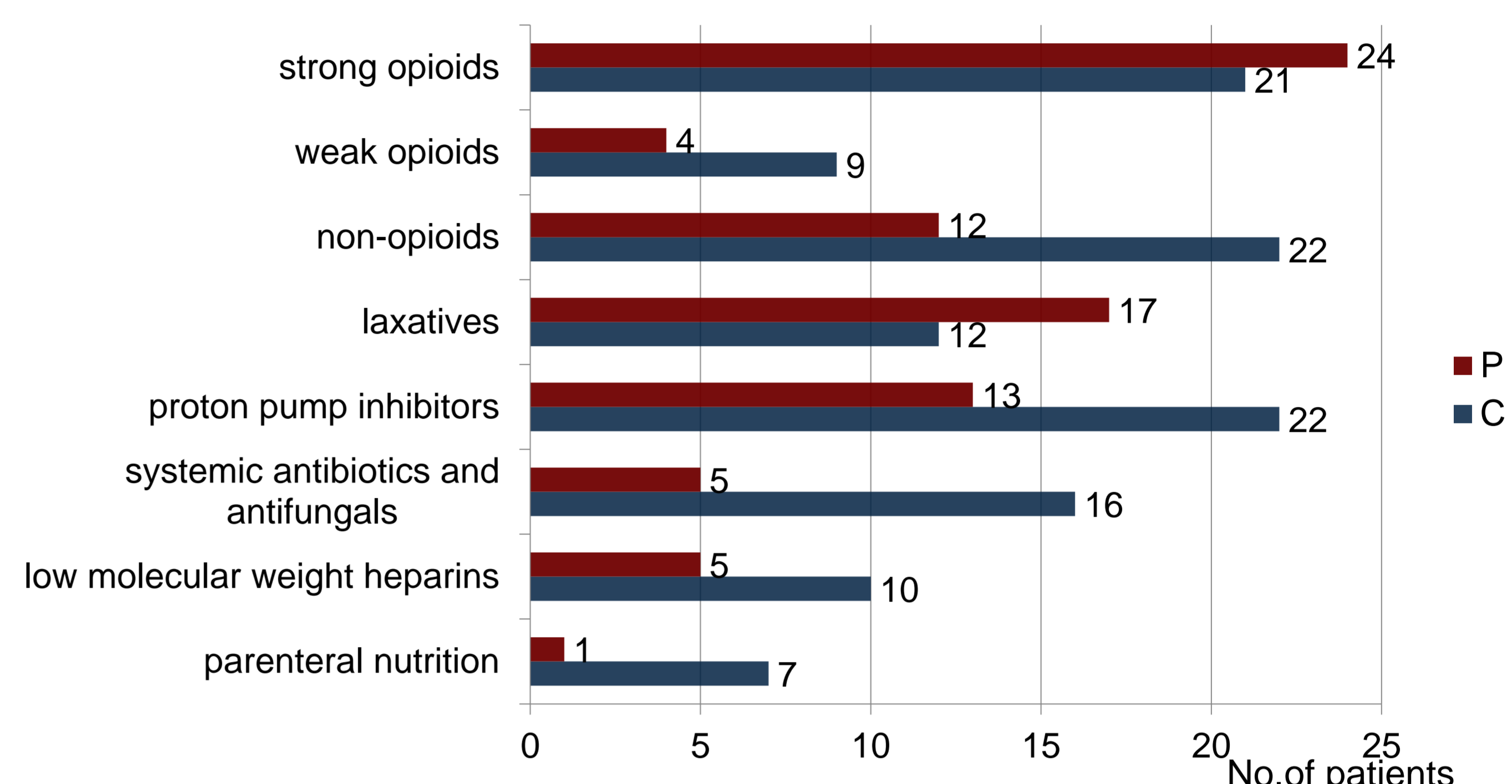


Figure 2. The most frequently prescribed drug classes over the last six days before death.

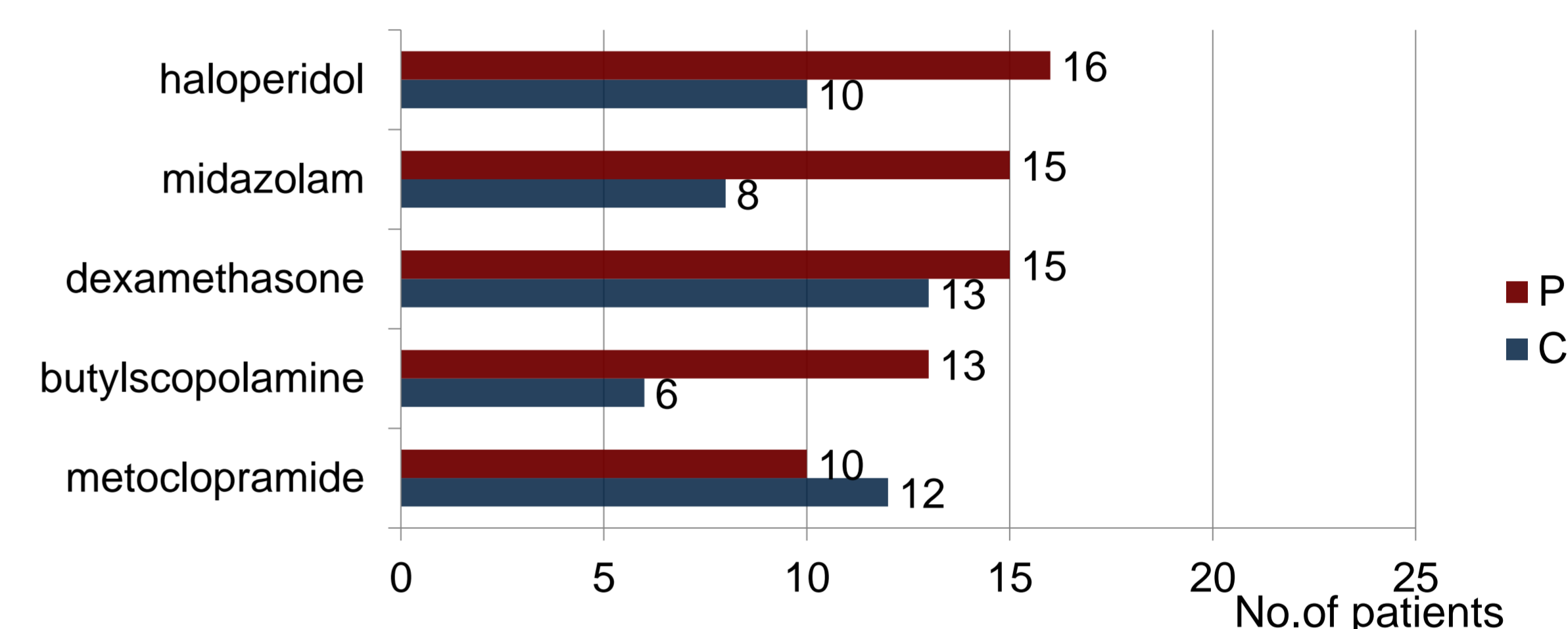


Figure 3. The frequency of prescribing of essential medicines (in addition to analgesics) to relieve the most common symptoms of a dying patient.

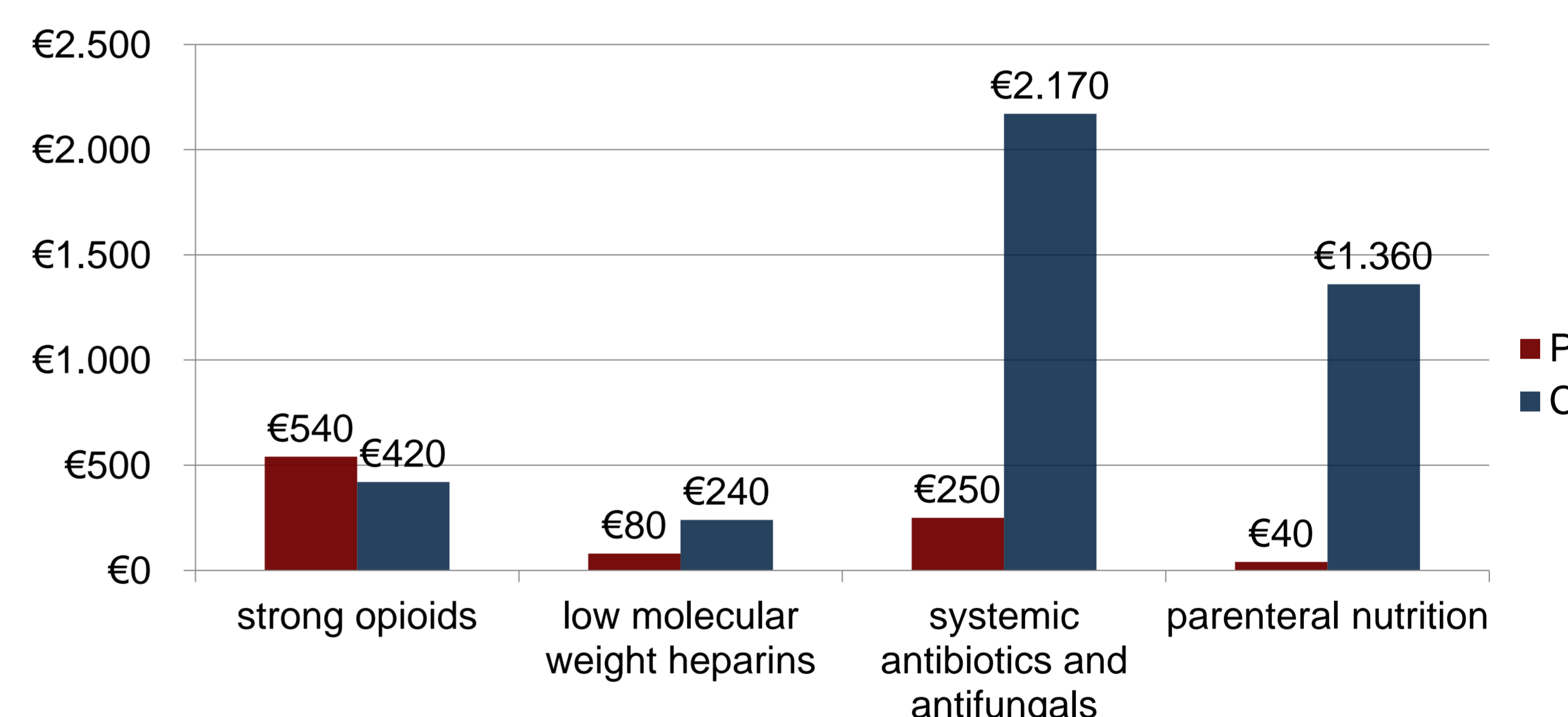


Figure 4. The difference in costs for some drug classes.

Discussion

Five main symptoms may develop in the last hours or days of life. In the retrospective study, we demonstrated that the majority of patients in both groups received strong opioid analgesics. Other medicines to relieve symptoms, such as haloperidol, midazolam, dexamethasone, butylscopolamine and metoclopramide, were more likely to be administered in the palliative group.

Polypharmacy was a common problem observed in both groups. However, patients treated according to palliative treatment pathway received on average 10 medicines, whilst those in control group 14.

The costs for medicines were 2.7-fold lower in the palliative group, 15€ compared to 42€ per patient per day. The difference was mainly attributed to unnecessary prescribing of low-molecular weight heparins, systemic antimicrobial medicines and parenteral nutrition.

Conclusions

Palliative care is given to improve the quality of life of patients with serious or life-threatening disease, such as cancer. The goal is to prevent the symptoms and side effects of advanced disease, and not to cure. In our opinion, the essential medicines in palliative setting are analgesics, antiemetics, sedatives, anxiolytics and anticholinergics. Other, unnecessary medicines should be omitted from the therapy.