

Pain management and outcomes in cancer patients: comparison between oncological and palliative sets of care

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ABSTRACT

BACKGROUND: medical oncologists and palliative care physicians have different tasks even if they play a similar role when coping with pain of their patients. In spite of this converging goal, oncologists and palliative care therapists can not have the same approach and impact in managing pain. This study analyzes how pain is treated and which outcomes derive from in 1 461 cancer patients separately cared by oncologists or palliative care physicians.

METHODS: data derive from an observational, multicentre, prospective, longitudinal study carried out in 110 Italian hospitals. After inclusion, the data were recorded weekly for a 28 days period of follow-up.

RESULTS: 876 patients (60%) were cared by oncologists and 585 (40%) by palliative care physicians. The two professional categories tended to similarly manage the drugs of WHO analgesic ladder, while rescue and adjuvant therapies were more frequently used by palliative care physicians. Opioids daily dose increased from 68.3 to 92.5 mg/day (Effect size=0.282) among oncologists and from 70.8 to 107.8 mg/day (Effect size=0.402) among palliative care physicians. The switch of opioids was applied in 12.3% and in 19.1% ($p=0.1634$), respectively. Pain intensity decreased in both groups but more strongly in the palliative context. The full responders patients were 50% in oncology wards and 58.9% in palliative care ($p=0.0588$).

CONCLUSIONS: this study indicates how much oncologists and palliative care physicians differ in managing cancer pain. The observational nature of this study reflects the natural and unaffected choice of the professionals. As intrinsic limit the study only describes their behaviors without a stringent comparative evaluation.

Key words: Cancer pain management; Setting of care; Palliative care; Oncology

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DOI: 10.2427/8698

INTRODUCTION

Clinical oncologists normally focus their attention on treating the disease “cancer” in order to defeat it or to slow down its progression. In parallel, palliative care physicians tend to relieve pain and other symptoms with the aim of improving the quality of life in any stage of disease but particularly in advanced and incurable patients.

Recently, a clear-cut distinction of roles has partially failed because, also during the chemotherapy phase, pain [1] and other symptoms are present, and a program of early palliative care [2] has proved to be very effective in improving the quality of life and, in part, the survival time of patients.

Nevertheless, oncologists and palliative care therapists do not always have the same approach to pain control [3], despite the long since existence of several guidelines [4-8].

In literature, some conflicting data on the treatment of pain in different care settings are described. A study evaluating pain control of in-patients in surgery and oncological wards versus hospice units, revealed lower levels of pain and a higher satisfaction with pain treatment in the hospice patients [9]. In a more recent study, the authors concluded that oncology wards provide an adequate standard of analgesic therapy for cancer-related pain [10]. Different opinions concerns the number of patients who receive inadequate therapy: pain is less undertreated [11] in oncology wards compared with non-oncology units including surgery, internal medicine and orthopedics wards [10]. These data are confirmed by a systematic review, where a higher prevalence of undertreatment was found in non-cancer-specific sets of care [12].

However, the knowledge on the approach of pain treatment in oncology comparatively to palliative care/hospice wards is scarce, in particular when referred to the longitudinal evaluation of pain treatments and outcomes, rarely reported. For this reason, in the context of a multicenter, prospective study carried out in Italy [12] on 1 801 patients with cancer and pain, we compared how oncologists and palliative care physicians managed pain.

This study mainly focused on the differences between the two sets of care, with regard to: a) baseline patient’s characteristics, b) patterns of pain treatments (analgesic drugs

prescribed, dose variations over time, number of switches), c) impact of therapy evaluated as pain intensity difference (PID) and percentages of full-responders (FR) and non-responders (NR) subjects.

METHODS

Study design

Data reported here was collected as part of a multicentre, prospective, longitudinal, non-randomized study carried out in 110 Italian hospitals. After inclusion, the data were recorded weekly for a 28 days period of follow-up.

Patients’ and physicians’ reports were collected using standardized forms at scheduled visits at baseline and at day 7, 14, 21 and 28. Self-administered questionnaires were completed when patients attended regular visits at the centre or during admission or at their home, depending on the setting of care. Investigators recorded information in a case report form. Data were collected by means of a web-based system, developed by the “Mario Negri” Institute [13].

Pain intensity was measured as worst, average and least pain experienced by patients in the last 24 hours, by means of a 0 to 10 points numerical rating scale (NRS). Pain relief was measured with the same scale. To describe the changes of daily doses of the opioids administered, “Oral Morphine Equivalent Daily Doses” (OMEDD) were calculated using known equi-analgesic ratios among opioids [8-15]. We also analyzed the pain treatment effectiveness classifying patients as full-responders (FR) and non-responders (NR), where FR, on the basis of the previous literature [16-19], were the patients who obtained a decrease of pain intensity (PI) equal or more than 2 points, or 30%, with a final $PI \leq 5$ points or ≤ 4 points, when measured as average pain. At the opposite, NR were the patients with an unchanged or worsened pain.

1 461 patients who concluded the period of follow-up were eligible for this analysis.

Statistical analysis

All tests were accompanied by descriptive statistics by means of absolute frequency for categorical variables and central and dispersion

measurements (mean, standard deviations [SDs]) for quantitative continuous variables. In according to the type of analysis, and when appropriate, results were presented in terms of Odds ratio (OR) to estimate the probability of reference value, followed by 95% confidence intervals of OR or in terms of absolute or relative difference with baseline followed by the effect size of the difference.

In order to respond to the first question (differences in the type of population recruited), we performed the comparison between groups with univariate analysis for each variable and finalized with a multivariate analysis including all variables. Univariate analyses were performed by means of logistic regression test for categorical variables [20-22] and General Linear Model test for continuous or ordinal variables [23-24]. Multivariate analysis was performed using the logistic regression after categorization of the continuous variables [25].

As to the second question (differences in the treatment decisions) we compared some different variables: the distribution of the types of analgesic drugs used including non-steroidal anti-inflammatory drugs (NSAIDs), opioids, adjuvant and rescue analgesics; the values and changes of oral morphine equivalent daily dose (OMEDD); the proportion of patients switching to another opioid. In all cases we analyzed the data as unadjusted and adjusted form, where the adjustment was represented by the all baseline factors significant results in the baseline analysis (Karnofsky PS score<50; Patients awareness on prognosis; Bone Metastasis; Ongoing antineoplastic therapy; Ongoing adjuvant therapy; BTcP; NSAIDs).

The comparisons between type of opioids, number of switches and rescue/adjuvant/NSAIDs therapy were performed by means of generalized linear model for repeated measurements, generalized estimation equations (GEE method) [26]. The comparison between daily dose of opioids was performed by means of a multivariate covariance mixed model for repeated measurements where the covariance factor was the OMEDD at baseline (before the therapy change occurred).

Finally, we analyzed the outcomes of treatments given in terms of intensity of pain (PI) at final vs baseline visit. This comparison was performed by means of a multivariate covariance mixed model for repeated measurements where the covariance factor

was the OMEDD at each time point. The comparative description of full-responders and non-responders patients was performed too, by means of generalized linear model for repeated measurements (GEE method) [26].

Ethical considerations

This study complied with Italian requirements for observational studies. The protocol was approved by each local research ethics committee of the participating centers. All patients gave written informed consent to participate. The full study protocol was published before the study started [27].

RESULTS

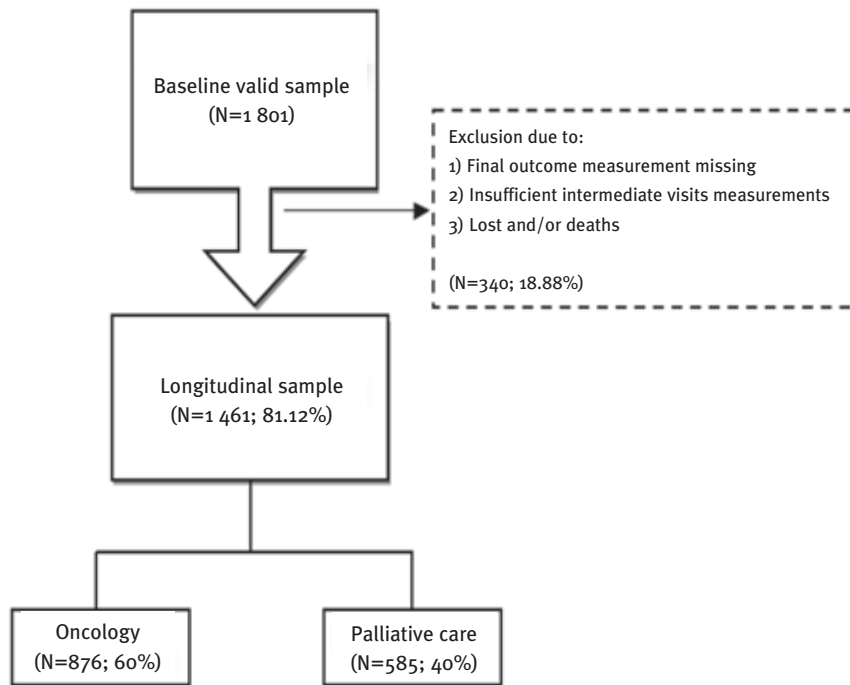
Patients characteristics at baseline

A total of 1 461 patients, were enrolled by 110 clinical centres and completed the whole period of follow-up: 876 patients (60%) were treated by oncologists and 585 (40%) by palliative care doctors (Figure 1).

Clinical and demographic characteristics of populations are described in Table 1. Most patients were men, the mean age was 63.9 years (SD=12.1), and a most frequent primary tumour sites were lung (21.7%), breast (17.4%) and colon-rectal (13.9%). Karnofsky PS and B-ADL index, scoring less than 50, were significantly more frequent in palliative care than in oncology patients (15.4% vs. 4.9% = KPS; 12.3% vs. 6.7% = B-ADL). Bone metastasis were present in 45.7% of the patients in the oncology group and in 52.6% in the palliative group ($p=0.009$). Physicians reported that 34.7% of patients in the oncology group and in 25.8% in the palliative group were aware of their prognosis ($p=0.0003$). In the palliative group a neuropathic component of pain was recognized in 30.1% of patients and a presence of breakthrough pain in 52.3% while in the oncology group the percentages were 23.2% and 43.8%, respectively. The average values of worst, average and least pain intensity were equal to 7.0, 4.6 and 2.7 in palliative group and 6.6, 4.3 and 2.5 in oncology group. These differences are all statistically significant. Pain relief was 5.2 and 5.7 ($p=0.0002$) in palliative and oncology groups, respectively.

FIGURE 1

FLOW-CHART OF PATIENTS RECRUITMENT



Longitudinal evaluation

Table 2 shows an overview of pain therapies given week by week in both groups.

Administration of NSAIDs decreased in the oncology group from 43.5% to 32.2%, and in the palliative group from 37.4% to 30.8%. These changes were not statistically significant.

Strong opioids (WHO step-III [4]) were increasingly given by each group, both starting from about 60% of patients at baseline and reaching at the final visit 76.6% in the case of oncologists and 81.0% of palliative care physicians. This increase, too, showed no statistically significant differences. With regard to the choice of the opioids, morphine was used from 16% (baseline) to 17% (final visit) in the oncology context and from 14% to 19% in the palliative context; buprenorphine from 25% to 29% in oncology and from 20% to 26% in palliative care; fentanyl from 40% to 36% in oncology and from 40% to 29% in palliative context; methadone from 0.4% to 0.6% in oncology and from 1.7% to 1.9% in palliative context; oxycodone from 12% to 13% in oncology and from 19% to 21% in palliative context.

The use of rescue therapy slightly decreased in both groups from baseline to the final visit (20.3% to 19.3% in oncology vs. 25.4% to 24.0% in palliative care), while the use of adjuvant therapies increased. Anti-convulsant drugs were given from 13.5% to 18.2% in the oncology context and from 20.2% to 24.8% in the palliative group. These variations showed statistically significant differences considered in both statistical models (unadjusted model: $p=0.0002$ and adjusted model: $p=0.009$). Anti-depressant drugs increased from 8.7% to 12.6% in the oncology group and from 12.1% to 18.5% in the palliative group, showing significant differences (unadjusted model: $p=0.0008$ and adjusted model: $p=0.0152$).

The OMEDD changed in the oncology context from 68.3 to 92.5 mg/day, with an effect size equal to 0.28; in the palliative context the OMEDD increased from 70.8 to 107.8 mg/day with an effect size equal to 0.40 (Table 3). These variations were statistically significant (unadjusted model: $p=0.0035$ and adjusted model: $p=0.0083$).

The switch of opioid was applied in 19.1% of patients in the palliative group and in 12.3% in oncology group: significance was observed

TABLE 1

CHARACTERISTICS OF POPULATIONS OF PATIENTS AT BASELINE													
CHARACTERISTICS	ONCOLOGY PATIENTS (n=876)				PALLIATIVE CARE PATIENTS (n=585)				TOTAL (n=1 461)				BETWEEN SETS OF CARE p-VALUE
	n	%	MEAN	SD	n	%	MEAN	SD	n	%	MEAN	SD	
AGE	-	-	63.3	11.9	-	-	64.7	12.3	-	-	63.9	12.1	0.0374
MEN	448	51.1	-	-	309	52.8	-	-	757	51.8	-	-	0.5293
KARNOFSKY PS, SCORE <50	43	4.9	-	-	90	15.4	-	-	133	9.1	-	-	<0.0001
B-ADL <50	59	6.7	-	-	72	12.3	-	-	131	9.0	-	-	0.0003
PATIENT AWARENESS ON PROGNOSIS	304	34.7	-	-	151	25.8	-	-	455	31.1	-	-	0.0003
PRIMARY TUMOR SITE													0.3405
LUNG	183	21.3	-	-	130	22.3	-	-	313	21.7	-	-	
BREAST	150	17.5	-	-	101	17.4	-	-	251	17.4	-	-	
COLON-RECTAL	117	13.6	-	-	83	14.3	-	-	200	13.9	-	-	
PROSTATE	69	8.0	-	-	48	8.2	-	-	117	8.1	-	-	
PANCREAS	56	6.5	-	-	28	4.8	-	-	84	5.8	-	-	
GYNAECOLOGIC	56	6.5	-	-	29	5.0	-	-	85	5.9	-	-	
GENITOURINARY	49	5.7	-	-	43	7.4	-	-	92	6.4	-	-	
STOMACH	51	5.9	-	-	18	3.1	-	-	69	4.8	-	-	
HEAD & NECK	44	5.1	-	-	26	4.5	-	-	70	4.9	-	-	
OTHERS	84	9.8	-	-	76	13.1	-	-	160	11.1	-	-	
TOTAL	859	100.0	-	-	582	100.0	-	-	1441	100.0	-	-	
BONE METASTASIS	400	45.7	-	-	308	52.6	-	-	708	48.5	-	-	0.0089
BREAKTHROUGH PAIN (BTCP)	384	43.8	-	-	306	52.3	-	-	690	47.2	-	-	0.0015
NEUROPATHIC PAIN (NP)	200	23.2	-	-	174	30.1	-	-	374	26.0	-	-	0.0036
WORST PAIN	-	-	6.6	2.3	-	-	7.0	2.2	-	-	6.8	2.3	0.0060
AVERAGE PAIN	-	-	4.3	2.0	-	-	4.6	2.0	-	-	4.4	2.0	0.0040
LEAST PAIN	-	-	2.5	2.0	-	-	2.7	2.0	-	-	2.6	2.0	0.0418
PAIN RELIEF	-	-	5.7	2.6	-	-	5.2	2.7	-	-	5.5	2.7	0.0002

in the unadjusted analysis ($p=0.002$).

The worst, average and least pain decreased from visit 1 to 5 in both groups, mostly in palliative ward (Table 4). In the oncology group, worst pain intensity diminished by 1.7 points, average and least pain by 1.2 and 0.5 points, respectively. In the palliative group, the worst pain reduction was 2.2 points, while the average pain and least pain reduction was equal to 1.6 and 1.1 points. $P \leq 0.05$ have been observed only in the adjusted model of statistical analysis.

The effect-size in pain intensity difference varied from 0.75 to 0.6 and to 0.25 in oncology group and from 0.99 to 0.81 and to 0.55 in

palliative group (worst, average and least pain, respectively).

Pain relief showed a not statistically significant increase of 0.9 point among the oncology patients and 1.6 points in palliative care.

Finally, Table 5 shows the results drawn by analyzing the patients in terms of full-responders or non-responders to pain treatments in the both groups, measuring pain intensity as worst and average pain.

The percentage of average pain FR was 50% and 58.9% in oncology vs. palliative care, while worst pain FR were respectively 40.7% and 51.4%. On the other side, average pain NR patients were 38.4% vs. 27.5% (oncology

TABLE 2

THERAPY DURING THE STUDY																	
VISIT	ONCOLOGY PATIENTS (N=876)					PALLIATIVE CARE PATIENTS (N=585)					UNADJUSTED MODEL			ADJUSTED MODEL**			
	1	2	3	4	5	1	2	3	4	5	OR	95% CI	p-VALUE	OR	95% CI	p-VALUE	
NSAIDs*	n	381	314	297	284	279	219	205	202	190	180	1.115	0.934-1.332	0.2291	1.116	0.907-1.373	0.3013
	%	43.49	35.84	33.9	32.42	31.85	37.44	35.04	34.53	32.48	30.77						
STRONG OPIOID THERAPY																	
YES	n	525	608	623	623	671	345	449	464	461	474	0.849	0.700-1.030	0.0966	0.910	0.721-1.148	0.4240
	%	59.9	69.4	71.1	71.1	76.6	59.0	76.7	79.3	78.8	81.0						
RESCUE THERAPY	n	105	107	99	101	126	85	103	107	100	106	0.670	0.555-0.881	0.0024	0.849	0.653-1.103	0.2204
	%	20.31	17.86	16.2	16.53	19.27	25.37	23.62	24.10	22.88	24.04						
ADJUVANT THERAPY																	
ANTI-CONVULSANT	n	118	130	143	149	163	118	131	143	144	145	0.626	0.493-0.796	0.0002	0.678	0.509-0.903	0.0093
	%	13.47	14.84	15.98	17.01	18.16	20.17	22.39	24.44	24.62	24.79						
ANTI-DEPRESSANT	n	76	78	90	95	110	71	92	103	110	108	0.609	0.465-0.798	0.0008	0.682	0.501-0.929	0.0152
	%	8.68	8.90	10.27	10.84	12.56	12.14	15.73	17.61	18.80	18.46						

*NSAIDs: non-steroidal anti-inflammatory drugs

**Generalized linear model analysis adjusted for: Karnofsky PS score <50; Patients awareness on prognosis; Bone Metastasis; Ongoing antineoplastic therapy; Ongoing adjuvant therapy; BTcP; NSAIDs

TABLE 3

OPIOID OMEDD AND SWITCH AMONG STRONG OPIOID DURING THE STUDY										
	VISIT	ONCOLOGY PATIENTS (n=876)			PALLIATIVE CARE PATIENTS (n=585)			OVERALL BETWEEN SETTING COMPARISON***		
		MEAN	SD	ES*	MEAN	SD	ES*		UNADJUSTED	ADJUSTED
OMEDD** (MG/DAY)	1	68.3	86.1		70.8	92.2		Diff.	-13.88	-7.46
	5	92.5	94.2	0.282	107.8	98.8	0.402	SE	4.75	2.82
								p-value	0.0035	0.0083
SWITCH (YES)		n	%		n	%		OR	0.597	0.766
		81	12.33		90	19.07		p-value	0.0020	0.1634

*ES: Effect Size of the difference

**OMEDD: Oral Morphine Equivalent Daily Dose

***Generalized linear model analysis with repeated measures (GEE method) adjusted for OMEDD at baseline

TABLE 4

PAIN INTENSITY (NRS) DURING THE STUDY														
	VISIT	ONCOLOGY PATIENTS (n=876)					PALLIATIVE CARE PATIENTS (n=585)					OVERALL BETWEEN SETTING COMPARISON**		
		n	MEAN	SD	Δ	ES*	n	MEAN	SD	Δ	ES*		UNADJUSTED	ADJUSTED
WORST PAIN	1	876	6.6	2.28			585	7.0	2.21			Diff.	0.033	0.298
	5	860	4.9	2.50	-1.7	0.746	564	4.8	2.37	-2.2	0.995	SE	0.097	0.105
												p-value	0.7314	0.0045
AVERAGE PAIN	1	876	4.3	2.02			585	4.6	1.96			Diff.	-0.001	0.175
	5	860	3.2	2.04	-1.2	0.594	564	3.0	1.85	-1.6	0.816	SE	0.082	0.352
												p-value	0.9865	0.0515
LEAST PAIN	1	876	2.5	2.01			585	2.7	2.01			Diff.	0.130	0.261
	5	860	1.9	1.86	-0.5	0.249	564	1.6	1.62	-1.1	0.547	SE	0.078	0.086
												p-value	0.0953	0.0024
PAIN RELIEF	1	876	5.3	2.57			585	5.2	2.74			Diff.	0.044	-0.068
	5	860	6.7	2.36	0.9	0.350	564	6.9	2.22	1.6	0.584	SE	0.097	0.109
												p-value	0.6516	0.5321

*ES: Effect Size of the difference

** Generalized linear model analysis with repeated measures (GEE method) adjusted for OMEDD at each time point

TABLE 5

FULL- AND NON-RESPONDER EVALUATION AT THE END OF THE STUDY									
	ONCOLOGY PATIENTS (n=876)		PALLIATIVE CARE PATIENTS (n=585)		UNIVARIATE* ANALYSIS BY VISIT		OVERALL BETWEEN SETTING COMPARISON**		
	n	%	n	%	OR	p-VALUE		UNADJUSTED	ADJUSTED
AVERAGE PAIN FULL-RESPONDER	430	50.0	332	58.9	0.849	0.0010	OR	0.715	0.837
							95% IC	0.610	0.695
							p-value	0.837	1.005
AVERAGE PAIN NON-RESPONDER	330	38.4	155	27.5	1.396	<0.0001	OR	1.708	1.387
							95% IC	1.443	1.143
							p-value	2.021	1.683
WORST PAIN FULL-RESPONDER	350	40.7	290	51.4	0.792	<0.0001	OR	0.666	0.775
							95% IC	0.564	0.695
							p-value	0.785	0.943
WORST PAIN NON-RESPONDER	300	34.9	144	25.5	1.366	0.0002	OR	1.660	1.370
							95% IC	1.394	1.123
							p-value	1.977	1.672
							<0.0001	0.0019	

*Cochran-Mantel-Haenszel

**Generalized linear model analysis with repeated measures (GEE method) adjusted for OMEDD at each time point

vs. palliative care) and worst pain NR were 34.9% vs. 25.5%.

All univariate statistical analysis by visit show statistically significant differences while analysis by setting were statistically significant only for unadjusted model.

DISCUSSION

Looking from a professional point of view, to be oncologist or palliative care physician presents dissimilar tasks and goals, because of different diagnostic and therapeutic competences in the clinical practice, in particular the need of coping with the disease progression vs. improving quality of life. In the patient's thoughts the main request is that disease and associated symptoms could be efficiently treated at the same time. Pain is a recurrent clinical problem in every stage of cancer evolution [1]. Both oncologists and palliative care physicians have often to face pain of their patients.

The aims of this study consisted in understanding how much the pain intensity and features differed in patients cared by oncologists and palliativists, due to the different stage of disease they were involved in, and if the therapeutic decisions made by the two professional categories, as well as the outcomes derived from the treatments, had similar impact on pain experienced by the patients.

Already at the basal visit the oncology patients (OP) varied from the palliative care patients (PCP) in terms of age (PCP were 1.4 years older), of performance status (PCP had a lower level) and prevalence of bone metastasis (about 7% more frequent in PCP). All these differences were highly significant, just to confirm that PCP were in a more impaired clinical situation than OP. Pain too was more severe in PCP (WP: 7.0 vs. 6.6; AP: 4.6 vs. 4.3 and LP: 2.7 vs. 2.5; in all cases: $p < 0.05$); BTcP was present in 52.3% of PCP and in 43.8% in OP (p -value=0.0015); neuropathic pain was recognized in 30.1% of PCP and in 23.2% of OP (p -value=0.004). An interesting collateral observation concerned the patients awareness about prognosis, reported by their physicians: 34.7% of OP seemed to be aware while only 25.8% of PCP showed this consciousness ($p=0.0003$). Two considerations: the awareness on the progress of disease and on the final

destiny is as a whole low, but it does not surprise to much in the Italian context, as described elsewhere [28]. Secondly, PCP are the most unaware and this fact lets us imagine that the more death is approaching the less truth tends to come out. Maybe this factor is non-influential in pain management, but it remains difficult to understand how it can be explained to a patient the need for a treatment based on major opioids if he/she does not know his/her clinical situation.

Beyond these differences at baseline, other aspects can be pointed out in the longitudinal evaluation. A first interest can be addressed to the choices on the background pain treatment. The results seem to demonstrate similar attitudes. In the course of the follow-up, NSAIDs were decreasingly used in both the professional categories. NSAIDs were given as a 1st step of WHO guidelines but also as a complementary (adjuvant) treatment of opioids regimen: this fact tends to confirm a trend already noticed [29]. Strong opioids were increasingly used over time reaching similar percentages of 76.7% (oncologists) and 81% (palliativists) at the final visit. No specific differences could be observed with regard to the choice of opioid molecule except for oxycodone that seem to be preferred in the palliative setting.

The rescue opioid therapy remained more or less at the same levels in each moment of the study even if their use was permanently 5% higher in the palliative context. A 5% from the first to the last visit increase, of adjuvant analgesic therapy (anti-convulsant and anti-depressant drugs, normally given for treating neuropathic pain) was observed in both professional categories. Taken together, the data seem to indicate that oncologists and palliativists have a similar trend in the treatment of background cancer pain in terms of adherence to the WHO guidelines. The different percentages found in all the categories of drugs (NSAIDs, opioids, rescue and adjuvant therapy) seem more ascribable to the dissimilar stage of disease of the patients rather than in a dissimilar attitude to treat them. Something different may be found when opioid dose escalation is evaluated: considering all opioids together, the increase of dosages is 35.4% among the oncologists and 52.3% among palliativists, with a daily dose escalation equal to 1,26% and 1,87% respectively. These levels of dose increase are in any case congruent with the parameters indicated by the literature [30,31].

Similarly, palliativists are more used to switch to another opioid (19.1% of cases) with respect to oncologists (12.3%). All these data detect a different propensity of managing opioids into the two settings, with a higher trend of handling them in favor of palliative context of care. This may be the first relevant characteristic that distinguish the two groups of professionals.

A second one is due to the outcomes derived from the pain treatment: even if pain decreases in both groups, the reduction is more pronounced in the palliative context, independently from the measure of pain assessment (WP, AP and LP). The average reduction of pain intensity is constantly about 25% in the OP and nearly 30% to 40% in PCP. The 10% of difference is considered quite relevant from the patients point of view [16-18].

These observations were confirmed by the quantitative analysis of the full-responders and non-responders to pain treatments between the two groups of patients. PCP were more frequently full-responders and less frequently non-responders, whatever type of measure was used. The differences between the palliative care and oncology settings ranged from 8.9% to 10.7%. All the comparisons were statistically significant in both adjusted and unadjusted model of analysis.

CONCLUSIONS

Pain has to be faced in every phase of cancer progression and its treatment is a challenge for the oncologists and palliative care

physicians. What makes the difference are the diverse general clinical conditions of patients during anticancer active treatment compared to the advanced and terminal phase. In addition, the palliativists seem to be more experienced in handling the painkiller drugs.

This study has some limitations related to its nature because was designed to describe the epidemiology and the pattern of care of cancer pain management in Italy and the findings reported and discussed in this paper are the results of an analysis carried out in the data collected in the framework of the study described above. Also taking into account these limitations when interpreting and generalizing the results, this analysis highlight that oncologists and palliativists properly utilize the principles of WHO analgesic ladder, with a clear preference for the treatments based on 3rd step-major opioids, as well as with a frequent recourse to adjuvant and rescue therapy. However, palliative care physician more easily administered opioid drugs; this fact is not surprising if we consider that palliative care was born around the idea of controlling pain and the other symptoms and a relevant commitment of palliativists is to know and to correctly use the opioid drugs.

Finally, the observational nature of this study reflects the natural and unaffected choice of the doctors but is also a limit since it simply describes their behaviors without a stringent comparative evaluation.

FUNDING: unconditional grant of Grunenthal-Italy

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