ORIGINAL ARTICLE

Morphine prescription to terminally ill patients with lung cancer and dyspnea: French physicians' attitudes

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ABSTRACT

This study aimed to investigate factors associated with analgesic use of morphine in end-of-life care. French general practitioners (GPs) and oncologists (N = 719) were asked whether they would prescribe morphine as first-line therapy to patients with terminal lung cancer suffering from dyspnea associated with cough and great anxiety. Overall, 54 percent of oncologists and 40 percent of GPs stated that they would prescribe morphine in the presented case. This prescriptive attitude correlated with physicians' age, professional background, communication skills, and attitude toward terminally ill patients. The findings of this study indicate that improving analgesic use of opioids in end-of-life care is not only a matter of enhancing technical skills acquired through training or experience but also a matter of improving communication and empathy between physicians and patients.

Key words: morphine, dyspnea, end-of-life care, lung cancer, France

INTRODUCTION

Dyspnea, or breathlessness, defined as a subjective sensation of difficult or uncomfortable breathing, is a common symptom among patients with terminal lung cancer.[1-4] It can result from both the progression of disease and aggressive treatments such as radiotherapy and chemotherapy.[5-7] Dyspnea and the sensation of smothering may cause terrible suffering in patients with advanced lung disease, and it is perceived as one of the most devastating symptoms by patients and their families.[8] Previous studies have found that dyspnea was associated with a sharp decrease in quality of life and will to live—i.e., many patients would rather die than suffer from dyspnea.[9,10]

Strong opioid analgesics, especially morphine, have been proved both safe and efficient as a first-line therapy for managing dyspnea in advanced disease in general, and terminal cancer in particular.[11-15] Nevertheless, dyspnea is usually poorly managed, first because of inadequate assessment and secondly because healthcare providers are frequently reluctant to use opioids to treat dyspnea, as they are concerned about the risk of respiratory depression, especially in patients with advanced lung disease.[2,15,16]

In this study, we investigated personal, professional, and attitudinal factors associated with the first-line prescription of morphine to terminal lung cancer patients suffering from dyspnea among a representative sample of French general practitioners (GPs) and oncologists. We analyzed data from the first French national survey on physicians' knowledge, attitudes, beliefs, and practices toward palliative care, conducted in 2002 by the Regional Centre for Disease Control of South-Eastern France and the National Institute for Health and Medical Research, Unit 379.

METHODS

Sampling and data collection

The survey was carried out among a random sample of French GPs and oncologists. The latter specialists are more likely than GPs to be involved in end-of-life care for patients with lung cancer. Because the corresponding populations differ greatly in size (about 68,000 GPs and 700 oncologists in France), we built a stratified sample with a sufficient number of specialists from the complete French physicians database of the European society CEGEDIM™. Eligible respondents were randomly selected at the following sampling rates: three of every 200 GPs and two of every five oncologists. Only specialties that

Table 1. Factors associated with morphine prescription for a terminally ill patient with lung cancer and dyspnea, univariate analysis (French national survey on physicians' knowledge, attitudes, beliefs, and practices towards palliative care [n = 719, 2002])					
Would you prescribe morphine first line to a terminally ill patient with lung cancer, suffering from dyspnea associated with cough and great anxiety?		**Yes (1) n = 320 (%)**	**No (2) n = 399 (%)**	**1 vs. 2**	
				Univariate OR [CI 95%]	**p**
Personal characteristics					
Gender	female (n = 247)	107 (33.4)	140 (35.0)	1	> 0.05
	male (n = 472)	213 (66.6)	259 (65.0)	1.1 [0.8 – 1.5]	
Age	< 45 (n = 355)	148 (46.3)	207 (51.9)	1	> 0.05
	≥ 45 (n = 364)	172 (53.7)	192 (48.1)	1.2 [0.9 – 1.7]	
Professional characteristics					
Medical specialty	GPs (n = 502)	202 (63.1)	300 (75.2)	1	< 0.001
	oncologist (n = 217)	118 (36.9)	99 (24.8)	1.8 [1.3 – 2.5]	
Number of patients followed up to death during the prior 12 months	≤ 12 (n = 525)	186 (58.1)	275 (68.9)	1	< 0.01
	>12 (n = 194)	134 (41.9)	124 (31.1)	1.6 [1.2 – 2.2]	
University degree in palliative care or pain management	No (n = 635)	270 (84.4)	365 (91.5)	1	< 0.01
	Yes (n = 84)	50 (15.6)	34 (8.5)	2.0 [1.2 – 3.2]	
Strictly private practice	No (n = 372)	194 (60.6)	178 (44.6)	1	< 0.001
	Yes (n = 347)	126 (39.4)	221 (55.4)	0.5 [0.4 – 0.7]	
Member of a team specializing in pain management	No (n = 640)	273 (85.3)	367 (92.0)	1	< 0.01
	Yes (n = 79)	47 (14.7)	32 (8.0)	2.0 [1.2 – 3.2]	
Systematic disclosure of information to competent dying patients					
Diagnosis	No (n = 637)	272 (85.0)	365 (91.5)	1	< 0.01
	Yes (n = 82)	48 (15.0)	34 (8.5)	1.9 [1.2 – 3.0]	
Prognosis	No (n = 685)	300 (93.8)	385 (96.5)	1	> 0.05
	Yes (n = 34)	20 (6.3)	14 (3.5)	1.9 [0.9 – 3.7]	
Therapeutic objectives	No (n = 289)	112 (35.0)	177 (44.4)	1	< 0.05
	Yes (n = 430)	208 (65.0)	222 (55.6)	1.5 [1.1 – 2.0]	
Attitude toward dying patients					
Feeling comfortable with dying patients	No (n = 358)	142 (44.4)	216 (54.1)	1	< 0.05
	Yes (n = 361)	178 (55.6)	183 (45.9)	1.5 [1.1 – 2.0]	
Opinions towards morphine use					
Prescribing high-dose morphine to a dying patient is euthanasia	No (n = 620)	287 (89.7)	333 (83.5)	1	< 0.05
	Yes (n = 99)	33 (10.3)	66 (16.5)	0.6 [0.4 – 0.9]	

would probably be in contact with terminal lung cancer patients with dyspnea were selected for analysis, so we did not select neurologists who were also involved in the national survey.

This random selection resulted in a sample of addresses corresponding to 1,120 GPs and 295 oncologists. These physicians received a letter through the mail that introduced the survey and promised anonymity. The telephone survey (using the Computer Assisted Telephone Interview system) began three weeks later and lasted from February 12 to March 13, 2002. Physicians were contacted Monday through Friday between 8:00 AM and 8:00 PM. Investigators proposed a later appointment if physicians were not free to respond at once.

Questionnaire and statistical analysis

An expert group that included GPs and specialists developed the questionnaire. Early versions of this questionnaire were tested in two pilot surveys. The final version included 202 closed-ended questions, but the present study only used a subset of them. The questionnaire included a clinical case describing a terminally ill patient with lung cancer suffering from dyspnea associated with cough and great anxiety. Respondents were asked whether they would prescribe morphine as a first-line therapy to such a patient.

Other questions assessed personal characteristics (e.g., age, gender, etc.), professional background (e.g., medical specialty, university degree in palliative care or pain management, experience in end-of-life care during the prior 12 months, part of a team specializing in pain management, practicing in only a private setting), attitudes toward terminally ill patients (e.g., systematic disclosure of diagnosis, prognosis, or therapeutic objectives to competent terminally ill patients; feeling comfortable with dying patients), and opinions regarding morphine use in end-of-life care (e.g., whether prescribing high-dose morphine to a dying patient should be considered euthanasia). See the appendix for the exact wording of the questions addressing attitudes.

We computed successively univariate and multivariate logistic regressions to investigate which personal, professional, and attitudinal factors were significantly associated with morphine first-line prescription in the case described above. The multivariate model was performed with a stepwise selection method (entry threshold: $p < 0.05$).

RESULTS

Data collected

In total, 19 of the 1,415 letters sent to GPs and oncologists were returned—these particular physicians had retired or moved to an unknown address. The remaining 1,415 physicians were contacted successfully, of which 719 agreed to participate. The response rate was higher for oncologists (74 percent) than for GPs (45 percent). Physicians most frequently cited lack of time as their reason for refusal. Nonrespondents did not differ from respondents in terms of gender, age, and town size. Completed interviews lasted a half-hour on average.

Factors associated with prescription of morphine

In our sample, 54.4 percent of oncologists (118 out of 217) and 40.2 percent of GPs (202 out of 502) stated that they would prescribe morphine as a first-line therapy to a terminally ill patient with lung cancer suffering from dyspnea (Table 1). In univariate analysis, gender and age were not correlated to prescriptive attitude toward morphine. Professional characteristics were far more predictive of willingness to prescribe morphine. For example, oncologists and physicians with more experience in end-of-life care during the prior 12 months were more likely to endorse such a prescription, as were physicians trained in palliative care or pain management and those working in a specialized team. By contrast, this prescriptive attitude was significantly less prevalent among physicians who practiced only in a private setting. With regard to communication and attitude toward terminally ill patients, physicians who reported systematic disclosure of diagnosis and therapeutic objectives to competent patients and those who felt comfortable with dying patients were more prone to prescribe morphine in the proposed short clinical case. Lastly, physicians who considered prescribing high-dose morphine to a dying patient as euthanasia were less likely to uphold morphine prescription.

In multivariate analysis, five different factors remained statistically significant (Table 2). Older physicians and those with a university degree in palliative care or pain management were more likely to uphold morphine prescription, while those with a strictly private practice were less likely to do so. Concerning attitudinal factors in end-of-life care, physicians who reported systematic disclosure of diagnosis and those who felt comfortable with terminally ill patients were more prone to endorse prescription of morphine to a dying patient with lung cancer and dyspnea.

DISCUSSION

Before discussing our results, we must acknowledge several limitations of the present study. First, we lack information about nonrespondents, even if they were not different from respondents according to the few characteristics that could be controlled from the initial file (age, gender, and size of town). Secondly, a closed-ended questionnaire prevents physicians from qualifying or justifying

Table 2. Factors associated with morphine prescription for a terminally ill patient with lung cancer and dyspnea, stepwise logistic regression (French national survey on physicians' knowledge, attitudes, beliefs, and practices towards palliative care [N = 719, 2002])

Would you prescribe morphine in first line to a terminally ill patient with lung cancer, suffering from dyspnea associated with cough and great anxiety?		**1 vs. 2 multivariate OR [CI 95%]**
Personal characteristics		
Age	< 45 (n = 355)	1
	≥ 45 (n = 364)	1.3 [1.0 – 1.7]
Professional characteristics		
University degree in palliative care or pain management	No (n = 635)	1
	Yes (n = 84)	1.6 [1.1 – 2.4]
Strictly private practice	No (n = 372)	1
	Yes (n = 347)	0.5 [0.4 – 0.7]
Systematic disclosure of information to competent dying patients		
Diagnosis	No (n = 637)	1
	Yes (n = 82)	1.9 [1.2 – 2.9]
Attitude toward dying patients		
Feeling comfortable with dying patients	No (n = 358)	1
	Yes (n = 361)	1.4 [1.1 – 1.9]

their responses, so we don't know respondents' motives to oppose morphine prescription in the proposed case. Thirdly, we investigated prescriptive attitudes with a short clinical case, not real practices. Nevertheless, in a previous analysis conducted with the same data set and dealing with doctor-patient communication in end-of-life care, we found that physicians' practices were quite consistent with their reported attitudes.[17] Lastly, our study used only one short clinical case with an undifferentiated patient, so we did not address another key issue in inadequate pain management—reluctance toward the analgesic use of morphine may also vary according to the sociodemographic characteristics of patients (especially age and gender).[18]

This case described a terminally ill patient with lung cancer suffering from dyspnea, cough, and great anxiety. Cough and anxiety have been added to dyspnea because they are other common symptoms observed among patients with terminal lung cancer, and because dyspnea may cause anxiety and, reciprocally, anxiety may worsen dyspnea.[2,15,19-21] Moreover, opioids are

effective cough suppressants and anxiety reducers, so in this clinical case morphine could be considered a very appropriate treatment.[22,23] Nevertheless, only half of oncologists and four GPs out of 10 reported that they would prescribe morphine as a first-line treatment for such a case.

Previous studies already have highlighted the persistent reluctance to prescribe morphine among French physicians, especially among GPs, despite significant improvements in physicians' attitudes regarding pain management.[24,25] Many physicians are still unwilling to prescribe opioids because they are worried about potential addiction and other adverse effects, or because they anticipate patients' refusal due to similar fears.[26] More specifically, the pharmacological management of dyspnea may be hampered by lack of knowledge of the effectiveness of opioids for dyspnea relief, lack of clinical experience using opioids to treat dyspnea, and persistent myths about opioids' effects in respiratory disease.[2,15,16]

Our results are consistent with such a diagnosis: Specialized training in palliative care or pain management is a good indicator of knowledge of the analgesic use of opioids, while younger physicians and those who practiced only in private settings probably were less experienced in treating dyspnea with opioids. (The "age effect" was not significant in univariate analysis because younger physicians were more likely to be trained in palliative care or pain management. Therefore, the "age effect" only appeared once controlled for the "training effect.")

With regard to attitudinal factors, once controlled for other variables, considering high-dose morphine prescription to terminally ill patients as euthanasia was not significantly associated with the propensity to prescribe morphine. A previous analysis of the same data set showed that both attitudes were shaped by professional background.[27] However, we also found that the propensity to prescribe morphine for treating dyspnea in terminal lung cancer was positively correlated with systematic communication of diagnosis to competent patients and feeling comfortable with terminally ill patients. The findings of this study indicate that improving analgesic use of opioids in end-of-life care is not only a matter of enhancing technical skills acquired through training or experience but also a matter of improving communication and empathy between physicians and patients.

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APPENDIX. EXACT WORDING OF QUESTIONS ADDRESSING FRENCH PHYSICIANS' ATTITUDES

Some people say that prescribing high-dose morphine to a dying patient should be considered euthanasia. Do you:

- strongly agree;
- agree;
- neither agree nor disagree;
- disagree; or
- strongly disagree.

(strongly agree and agree were encoded as "yes," other items were encoded as "no")

When providing care for terminally ill patients, do you feel:

- very comfortable;
- comfortable;
- neither comfortable nor uncomfortable;
- uncomfortable; or
- very uncomfortable.

(very comfortable and comfortable were encoded as "yes," other items were encoded as "no")

Do you communicate the prognosis (*resp.* diagnosis, therapeutic objectives) to competent terminally ill patients?

- yes, systematically even if the patient doesn't explicitly ask for;
- yes, if necessary, even if the patient doesn't explicitly ask for;
- yes, if necessary, and if the patient explicitly asks for;
- yes, systematically, but only if the patient explicitly asks for; or
- no, never.

("systematic disclosure" corresponded only to "yes, systematically, even if the patient doesn't explicitly ask for")