

Surgical Resident Education for Pain Management in Cancer Patient - A Result of an Institutional Experience in Japan

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Abstract

Although an increasing number of Japanese hospitals have established palliative care departments, the provision of palliative care in the current health care system is insufficient. In 2012, 2.6% of all Japanese hospitals had a palliative medicine unit. Additionally, in 2008, only 2.3% of hospitals had a palliative medicine unit with specialists in palliative medicine, and only 4.2% of hospitals, which had teams of palliative medicine specialists and palliative medicine units, were deemed cancer care hospitals. Specifically, in many hospitals, specialists in non-palliative care treat numerous symptoms in oncology patients. Palliative care is an essential part of integrated oncology treatment. According to a survey of certified oncologists regarding palliative care, knowledge pertaining to palliative medicine and its requisite skills are necessary for oncologists. Several societies have carried out educational programs pertaining to palliative care for lay people. Furthermore, a Japanese organization, The Japanese Society of Palliative Medicine, has launched a program on symptom management called the Palliative Care Emphasis and a project called the Assessment for Continuous Medical Education for trainers, as well as regular seminars using an integrated curriculum for medical students and primary staff in oncology. However, for physicians in training, the requirement and development of a primary palliative medicine skill set has not yet been well established. Therefore, given the increasing attention to these concerns, since 2009, all surgical residents in the palliative care department of National Cancer Center in Tokyo have been involved in a mandatory one-month training session that we conducted. For this article, we performed a review regarding physician education in palliative care in Japan over the recent years and we considered palliative care training including management of pain for surgical residents.

Keywords: Palliative care; Education; Cancer pain; Surgeon

Palliative Care in Japan

Japan has one of the oldest populations and has what is considered an aging society. In 2011, the average human life expectancy in Japan was one of the longest in the world with 79.4 years for men and 86.0 years for women. As a result, in Japan, the number of cancer deaths exceeds 300,000 per year. In fact, at this time, 1 out of 3 cancer patients die from a malignant neoplasm [1]. In 2006, given the number of cancer deaths, the Ministry of Health, Labour, and Welfare of Japan (MHLW) established the Cancer Control Act.

Palliative care is an essential part of integrated cancer treatment. Based on a survey of certified oncologists regarding palliative medicine, palliative care knowledge and its requisite skills are critical for oncologists. In Japan, although the concept of palliative care began during the 1970s, over the past 15 years, a multitude of new medicines have been created, as well as interventions have been introduced, mainly for pain control, which is one of the major issues in palliative medicine for cancer patients. Since 2007, the Ministry of Education, Culture, Sports, Science and Technology (MECSST), Japan, has promoted 18 consortiums in graduate universities to expand integrated and standardized oncology care throughout Japan. However, during its first year, only approximately 30 physicians majored in the palliative medicine course, and one-tenth of those physicians selected cancer chemotherapy and therapeutic radiology courses.

In Japan, palliative care within the current health care system is insufficient. However, an increasing number of hospitals throughout Japan are creating palliative medicine departments. According to the Hospice Palliative Care of Japan, only 244 hospitals (2.6% of all hospitals in Japan) had a palliative medicine unit during the year of 2012 [2]. Additionally, in 2008, the Ministry of Health, Labour, and

Welfare of Japan indicated that only 2.3% of hospitals had a palliative medicine unit, including specialists in palliative care, and that only 4.2% of hospitals with teams of palliative care specialists and palliative care units were designated as cancer care hospitals. As such, given the low number of hospitals with palliative care specialists, non-palliative care specialists treat various issues in cancer patients in many hospitals.

Palliative Care Education

Unfortunately, because their medical knowledge and technical skills are inadequate, many physicians who do not specialize in oncology do not always feel comfortable with respect to the treatment of incurable patients [3]. Physicians who did not have any previous education repeatedly express interest in receiving training in palliative care [4-6], but research continues to show poor control of symptoms [6-8]. Therefore, having clinical experience with incurable patients is important for physicians, so palliative medicine should be a necessary component of medical education [9]. While skills in palliative medicine are deemed necessary for all oncologists, the requirement and

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development of a skill set in primary palliative medicine for physicians in training has not yet been well established. In the United States, most medical schools do not accentuate palliative care training as a graduation requirement [10] to the same degree as in Japan. Students feel unprepared to provide good care for dying. Current educational practices and institutional culture medical schools do not support adequate palliative care. Attention to curricular change is needed to improve palliative care education in medical schools [11]. However, in the United States, for doctors at the postdoctoral level, such as residents and fellows, a documented need exists for palliative care training [12-14]. Furthermore, compared to doctors in the West, few Japanese doctors believe the following: "I have enough knowledge and skills regarding palliative care" or "I have received sufficient education on palliative care" [15-18].

In Japan, several societies have conducted various educational events for lay people pertaining to palliative care. To that end, these societies have conducted systematic educational programs for primary medical staff, as well as special projects for training leaders and experts in palliative medicine that are partially supported by the MHLW, such as the "Orange balloon project" for lay people. In fact, as of recently, patient advocates have been cooperating with medical societies and are actively involved with these movements.

The Japanese Society of Palliative Medicine (JSPM) is carrying out the Palliative care Emphasis program on symptom management and Assessment for Continuous medical Education (PEACE) project; with the support of the MHLW, this project is for trainers and also offers medical students and primary staff regular seminars in oncology using an integrated curriculum [19,20]. In fact, in 2009, about 10,000 physicians completed integrated educational courses such as the PEACE projects. For clinicians, continuing education programs in primary palliative medicine will be crucial, and the trainers who graduated from the PEACE project will be able to maintain these programs.

The consortiums of graduate schools in medicine conduct projects that are supported by the MECST, such as Gan (Cancer) professional training course [21]. It would be advantageous to increase the number of courses in and chairs of palliative medicine, as only a few Japanese universities and medical colleges currently have a few chairs of and courses in palliative medicine.

Palliative Care of Surgeons

To help patients maintain a better quality of life, more recently, palliative medicine has generally moved from caring for terminally ill oncology patients to earlier intervention. The implications of this paradigm shift have been more profound for surgeons who treat oncology patients in their daily surgical practice, as surgeons have customarily had integral roles in the care of oncology patients in Japan. To that end, surgeons who treat oncology patients are concerned in not only operative and perioperative care, but also endoscopic therapy, chemotherapy, and end-of-life care in general hospital units [22]. As such, given their numerous interactions with patients, surgeons build good relationships with oncology patients and can adjust their management of a patient as the patient's clinical condition changes. However, patient management is increasingly becoming more of a team approach, during which various health care professionals provide patient care as a group. Unfortunately, the need for providing medical care of oncology patients as a team has not yet been fully acknowledged [23]. A report indicated that multidisciplinary teams provide more effective palliative care [23]; in fact, this report also indicated that one of the most critical roles of the team approach is the engagement of

surgeons who have adequate knowledge pertaining to the postoperative progress of patients and pathology of metastasized/relapsed cancer.

Numerous distinctions exist between Japan and other countries, as some other countries provide educational programs and guidelines on palliative medicine for surgeons [24,25]. But, basic principles of pain management are often not routinely taught during surgical training. Surgeons are aware of the complexities of pain experienced by patients. Surgeons are routinely called to apply surgical procedures for the relief of pain and, in the process, create pain. Therefore, relief of suffering represents principle of surgical care and the responsibility to provide adequate pain control is primarily of surgeon.

Trial on palliative care education including management of pain for surgeons

In Japan, doctors at the postdoctoral level are involved in the PEACE project [20]. While the training is not required, many physicians have participated in this training, and results have been achieved. Given the increasing concerns regarding palliative medicine, since 2009, we have been offering all surgical residents in the palliative care department a mandatory one-month training session at the National Cancer Center (NCC) in Tokyo. For surgical residents, palliative care training is required; the NCC is the only Japanese institution to have made this training a requirement. Residents learn about palliative care throughout a patient's illness, and the training includes the following: accurate pain diagnosis, treatment of pain, and in-home-based palliative care. This training is aimed to help residents learn about the various palliative treatments, beginning with the earlier phases of cancer treatment to end-of-life. Our study assessed the effectiveness of the required training in palliative care by performing a retrospective study, which involved examining patient medical records, as well as participants' questionnaire results, and discussed the significance of education in palliative medicine for surgical residents [26]. After medical school graduation, this entire educational project for hospital-based surgical residents comprises the second stage of training. The surgical residents were in their fourth to ninth year post-graduation, and half of these residents were surgical specialists.

In this study, in 2009, 12 surgical residents treated 92 total cases (average of 7.66 cases per resident). For most of these cases (92.3%), the primary goal was to mitigate pain. Other purposes included controlling dyspnea, malaise, numbness, and other symptoms. For these patients, the initial pain interventions for cancer patients included the following: introduction of an analgesic adjuvant (23.9%), a change in administration route or dose of a prior opioid analgesic (21.7%), introduction of an opioid analgesic (14.1%), introduction of opioid rotation (11.9%), a change in dose or type of nonopioid analgesic (9.7%), a change in dose or type of analgesic adjuvant (6.5%), and introduction of a nonopioid analgesic (4.3%) (Table 1). Furthermore, through these interventions, the overall pain improvement rate was 89.1%.

Prior to participating in the training, the percentage of residents who answered "I can perform this and explain to others" or "I can perform this with support" did not exceed 50% for any item in the residents' questionnaires. However, after the training, all items had a rating greater than 75%. Before the training, "I have no idea" regarding the management of analgesic adjuvants was the item that had the highest number of residents' answers, followed by concerns on management of malaise and control of refractory pain (Table 2). Moreover, after the training, for the question, "Do you think the course is useful for your future practice?" 50% of the residents answered, "Yes, very much," while 50% answered, "Yes."

Resident initial intervention	(%)
Assistance of relieving pain medicine Initial interventions for cancer pain were introduction of analgesic adjuvants	24%
Change in routes of administration or doses of prior opioid analgesics	22%
Introduction of opioid analgesics	14%
Introduction of opioid rotation	12%
Change in doses or type of non-opioid analgesics	10%
Change in doses or type of analgesic adjuvants	7%
Introduction of non-opioid analgesics	4%
Others	7%

Table 1: Initial interventions for cancer pain.

Item	Evaluation before it trains (%)				Evaluation after it trains (%)			
	1	2	3	4	1	2	3	4
Importance of opinion exchange by multi occupational category	25%	33%	33%				83%	17%
Management of cancerous pain	25%	58%	17%				83%	17%
Management of Medicine								
Opioid analgesic	17%	58%	25%				67%	33%
Non-opioid analgesic	17%	33%	42%	8%			58%	42%
Analgesic adjuvants	67%	17%	17%			17%	67%	17%
Medicine of adverse effect measures	33%	42%	25%			13%	50%	33%
Management of respiratory symptom	42%	50%	8%			25%	75%	
Management of digestive tract symptom	25%	33%	25%	17%		17%	42%	42%
Management of malaise	58%	42%				25%	75%	
Management of lymphatic edema	33%	58%	8%		8%	17%	75%	
Sedation of refractory pain	42%	33%	25%			17%	75%	8%

The residents were asked to tick one of four grades on each item

1: I have no idea.

2: I know of this but cannot perform it in practice,

3: I can perform this with support

4: I can perform this and explain to others

Table 2: The questionnaires before and after the palliative care training.

We believe surgical residents will be better equipped to provide improved medical care to cancer patients. A surgeon's primary responsibility is to utilize one's knowledge and skills of cancer in oncological surgery and treatment. Surgeons have a long tradition of service in the relief of suffering that precedes the accomplishments in eliminating disease. Although the field of palliative care mostly has been developed by non-surgeons, palliative care challenges some of most basic assumptions about the meaning of illness which leads us to ask new questions and discover new problems. The education of surgical residents in palliative care will help them to follow their patients with other specialists in the multidisciplinary team taking care of these cancer patients.

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