

## Original Article

## The Accuracy of Physicians' Clinical Predictions of Survival in Patients With Advanced Cancer

Koji Amano, MD, Isseki Maeda, MD, PhD, Satofumi Shimoyama, MD, PhD, Takuya Shinjo, MD, Hiroto Shirayama, MD, Takeshi Yamada, MD, PhD, Shigeki Ono, MD, Ryo Yamamoto, MD, Naoki Yamamoto, MD, PhD, Hideki Shishido, MD, Mie Shimizu, MD, Masanori Kawahara, MD, PhD, Shigeru Aoki, MD, Akira Demizu, MD, Masahiro Goshima, MD, PhD, Keiji Goto, MD, Yasuaki Gyoda, MD, PhD, Kotaro Hashimoto, MD, Sen Otomo, MD, Masako Sekimoto, MD, Takemi Shibata, MD, Yuka Sugimoto, MD, and Tatsuya Morita, MD

*Department of Palliative Medicine (K.A.), Osaka City General Hospital, Osaka; Department of Palliative Medicine (I.M.), Graduate School of Medicine, Osaka University, Suita; Department of Palliative Care (S.S.), Aichi Cancer Center Hospital, Nagoya; Shinjo Clinic (T.Shin.), Kobe; Iryouhoujinn Takumikai Osaka Kita Homecare Clinic (H.Shir.), Osaka; Department of Gastrointestinal and Hepatobiliary-Pancreatic Surgery (T.Y.), Nippon Medical School, Tokyo; Division of Palliative Medicine (S.On.), Shizuoka Cancer Center Hospital, Shizuoka; Department of Palliative Medicine (R.Y.), Saku Central Hospital Advanced Care Center, Saku; Department of Primary Care Service (N.Y.), Shinsei Hospital, Nagano; Shishido Internal Medicine Clinic (H.Shis.), Sakura; Saiseikai Matsusaka General Hospital (M.Sh.), Matsusaka; Soshukai Okabe Clinic (M.K.), Natori; Sakanoue Family Clinic (S.A.), Hamamatsu; Demizu Clinic (A.D.), Kishiwada; Homecare-Clinic Kobe (M.G.), Kobe; Himawari Zaitaku Clinic (K.G.), Kumamoto; Kanamecyo Home Care Clinic (Y.G.), Tokyo; Fukushima Home Palliative Care Clinic (K.H.), Fukushima; Shonan International Village Clinic (S.Ot.), Kanagawa; Sekimoto Clinic (M.Se.), Kobe; Kanwakeakurinkku-Eniwa (T.Shib.), Eniwa; Sugimoto Homecare Clinic (Y.S.), Nagoya; and Palliative and Supportive Care Division (T.M.), Hamamatsu, Japan*

## Abstract

**Context.** Accurate prognoses are needed for patients with advanced cancer.

**Objectives.** To evaluate the accuracy of physicians' clinical predictions of survival (CPS) and assess the relationship between CPS and actual survival (AS) in patients with advanced cancer in palliative care units, hospital palliative care teams, and home palliative care services, as well as those receiving chemotherapy.

**Methods.** This was a multicenter prospective cohort study conducted in 58 palliative care service centers in Japan. The palliative care physicians evaluated patients on the first day of admission and followed up all patients to their death or six months after enrollment. We evaluated the accuracy of CPS and assessed the relationship between CPS and AS in the four groups.

**Results.** We obtained a total of 2036 patients: 470, 764, 404, and 398 in hospital palliative care teams, palliative care units, home palliative care services, and chemotherapy, respectively. The proportion of accurate CPS (0.67–1.33 times AS) was 35% (95% CI 33–37%) in the total sample and ranged from 32% to 39% in each setting. While the proportion of patients living longer than CPS (pessimistic CPS) was 20% (95% CI 18–22%) in the total sample, ranging from 15% to 23% in each setting, the proportion of patients living shorter than CPS (optimistic CPS) was 45% (95% CI 43–47%) in the total sample, ranging from 43% to 49% in each setting.

**Conclusion.** Physicians tend to overestimate when predicting survival in all palliative care patients, including those receiving chemotherapy. *J Pain Symptom Manage* 2015;50:139–146. © 2015 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

## Key Words

*Physicians' clinical predictions of survival, actual survival, advanced cancer patients, palliative care, chemotherapy*

Address correspondence to: Koji Amano, MD, Department of Palliative Medicine, Palliative Care Team, Osaka City General Hospital, 2-13-22 Miyakojima-hondori, Miyakojima-

ku, Osaka 534-0021, Japan. E-mail: [kojiamano4813@gmail.com](mailto:kojiamano4813@gmail.com)

Accepted for publication: March 5, 2015.

## Introduction

Accurate prognoses are needed for patients with advanced cancer to determine appropriate end-of-life care, such as medical interventions and timing of referral to hospice care programs.<sup>1–4</sup> Previous surveys have revealed that the majority of patients want to know their prognoses, and their prognostic estimates were less accurate than those of health care professionals.<sup>5,6</sup> Almost all the patients wished for their doctor to be honest in communicating their prognoses,<sup>7</sup> but in reality, physicians' clinical predictions of survival (CPS) for patients with advanced cancer are often inaccurate, which considerably impacts end-of-life care.<sup>8–11</sup> Multiple previous studies revealed that physicians' estimates tend to be more optimistic than pessimistic.<sup>3,5,12–18</sup>

Previous studies of this issue have several limitations regarding clinical implications because they did not survey palliative care physicians' predictions exclusively and they did not involve simultaneous investigations in a variety of clinical settings, including palliative care units, hospital palliative care teams, and home palliative care services.<sup>1–5,8–18</sup> More importantly, anti-cancer treatment is increasingly provided for patients with advanced cancer, and the impact of timing and setting of palliative care referral on quality of end-of-life care has become highlighted.<sup>19–26</sup> Therefore, there is a strong need for oncologists and palliative care physicians to accurately predict the survival of patients receiving anticancer treatment in palliative settings.

The objectives of this study were to evaluate the accuracy of CPS and assess the relationship between CPS and actual survival (AS) in patients with advanced cancer in a variety of palliative settings including palliative care units, hospital palliative care teams, and home palliative care services, as well as in patients receiving chemotherapy.

## Methods

This is a subanalysis of a multicenter prospective cohort study conducted in 58 palliative care service centers in Japan from September 2012 through April 2014.<sup>27</sup> The participating units included 16 palliative care units, 19 hospital palliative care teams, and 23 home palliative care services. The palliative care physicians evaluated patients and recorded a point estimate (e.g., 25 days) as the CPS on the first day of admission and followed up all patients to their death or six months after their enrollment. The physicians were palliative care consultants on a palliative care team, attending physicians in palliative care units, and home palliative care physicians primarily responsible for the patients. Patient demographics and clinical characteristics, such as gender, site of primary cancer, metastatic disease, and recent anticancer

treatment in the past 30 days (i.e., chemotherapy, hormone therapy, and radiotherapy) were obtained.

Consecutive eligible patients were enrolled in this study if they had been newly referred to the participating institutions during the study period. All institutions were asked to take a sample of data consecutively, up to the designated number of patients of 20, 40, 60, 80, or 100, according to the size of the institution. Inclusion criteria for this study included 1) adult patients, 2) patients diagnosed with locally extensive or metastatic cancer (including hematological neoplasm), 3) patients admitted to palliative care units, receiving care from hospital palliative care teams, or receiving home palliative care services. Patients receiving chemotherapy, hormone therapy, and radiotherapy were not excluded.

This study was conducted in accordance with the ethical standards of the Helsinki Declaration and the ethical guidelines for epidemiological research of the Ministry of Health, Labor and Welfare in Japan, and approved by the local Institutional Review Boards for all participating institutions.

## Statistical Analyses

Of all patients enrolled, we analyzed the patients who died during the study period. We then classified four patient groups: 1) patients from hospital palliative care teams (not receiving chemotherapy), 2) patients admitted to palliative care units (not receiving chemotherapy), 3) patients receiving home palliative care services (not receiving chemotherapy), and 4) patients receiving chemotherapy.

To evaluate the accuracy of CPS and the relationship between CPS and AS, we plotted CPS and AS for each setting. Second, the proportion with 95% CIs of "accurate CPS," the proportion of "pessimistic CPS," and the proportion of "optimistic CPS" were calculated. For comparability with other studies,<sup>14,16,18,28,29</sup> we defined a CPS as accurate if it was within 0.67–1.33 times the AS, that is, CPS was considered accurate if the error was less than  $\pm 33\%$ , and the error was calculated as  $(\text{CPS} - \text{AS}) / \text{AS} \times 100$ . We defined patients living longer than CPS as "pessimistic CPS" and patients living shorter than CPS as "optimistic CPS." In addition, Spearman's correlation coefficient between CPS and AS was calculated; Spearman's correlation coefficient:  $<0.2$  poor agreement,  $0.21$ – $0.4$  fair,  $0.41$ – $0.6$  moderate,  $0.61$ – $0.8$  good,  $0.81$ – $0.99$  very good, and  $1$  perfect.<sup>30</sup>

We analyzed differences in predicting survival for certain primary cancers or location of metastases and the accuracy of CPS in all settings, including patients still alive at the end of the study period. We explored whether the accuracy differed among patients with different survival periods; the accuracy of each AS was assessed. AS was categorized into

Download English Version:

<https://daneshyari.com/en/article/2735944>

Download Persian Version:

<https://daneshyari.com/article/2735944>

[Daneshyari.com](https://daneshyari.com)