

Clinical Investigation

# Gaps in Radiation Therapy Awareness: Results From an Educational Multi-institutional Survey of US Internal Medicine Residents



Narek Shaverdian, MD,\* Sun Mi Yoo, MD, MPH,<sup>†</sup> Ryan Cook, MSPH,<sup>‡</sup>  
Eric M. Chang, MD,\* Naomi Jiang, MD,\* Ye Yuan, MD, PhD,\*  
Kiri Sandler, MD,\* Michael Steinberg, MD,\* and Percy Lee, MD\*

Departments of \*Radiation Oncology and <sup>†</sup>Medicine, David Geffen School of Medicine, and  
<sup>‡</sup>Department of Epidemiology, Fielding School of Public Health, University of California, Los Angeles,  
Los Angeles, California

Received Jan 10, 2017, and in revised form Feb 20, 2017. Accepted for publication Mar 18, 2017.

## Summary

Primary medical providers are playing a growing role in cancer care. We therefore evaluated the awareness of radiation therapy in general and specifically the clinical utility of stereotactic body radiation therapy for early-stage non-small cell lung cancer among US internal medicine trainees through a multi-institutional survey. The majority of medicine trainees do not receive radiation oncology training in their residency and report a lack of confidence in knowing when to consult radiation oncology,

**Purpose:** Internists and primary care providers play a growing role in cancer care. We therefore evaluated the awareness of radiation therapy in general and specifically the clinical utility of stereotactic body radiation therapy (SBRT) for early-stage non-small cell lung cancer (NSCLC) among current US internal medicine residents.

**Methods and Materials:** A web-based institutional review board–approved multi-institutional survey was distributed to US internal medicine residency programs. The survey evaluated trainee demographic characteristics, baseline radiation oncology awareness, knowledge of the role of SBRT for early-stage NSCLC, and whether the survey successfully improved awareness.

**Results:** Thirty US internal medicine programs participated, with an overall participant response rate of 46% (1177 of 2551). Of the trainees, 93% (n=1076) reported no radiation oncology education in their residency, 39% (n=452) reported confidence in knowing when to consult radiation oncology in an oncologic emergency, and 26% (n=293) reported confidence in knowing when to consult radiation oncology in the setting of a newly diagnosed cancer. Of the participants, 76% (n=850) correctly identified that surgical resection is the standard treatment in operable early-stage NSCLC, but only 50% (n=559) of participants would recommend SBRT to a medically inoperable patient, followed by 31% of participants (n=347) who were unsure of the most appropriate treatment, and 10% (n=117) who recommended waiting to offer palliative therapy. Ninety percent of participants (n=1029) agreed that they would benefit

Reprint requests to: Percy Lee, MD, Department of Radiation Oncology, University of California, Los Angeles, 200 UCLA Medical Plaza, Ste B265, Los Angeles, CA 90095-6951. Tel: (310) 825-9771; E-mail: [percylee@mednet.ucla.edu](mailto:percylee@mednet.ucla.edu)

Support for this work was provided by an educational grant from the American College of Radiation Oncology.

Conflict of interest: none.

Supplementary material for this article can be found at [www.redjournal.org](http://www.redjournal.org).

**Acknowledgments**—The authors are thankful to their tireless friends in internal medicine across the country who took the time to complete this survey, as well as to their friends in radiation oncology who encouraged participation among their internal medicine peers.

highlighting the need for new educational strategies.

from further training on when to consult radiation oncology. Overall, 96% (n = 1072) indicated that the survey increased their knowledge and awareness of the role of SBRT.

**Conclusions:** The majority of participating trainees received no education in radiation oncology in their residency, reported a lack of confidence regarding when to consult radiation oncology, and overwhelmingly agreed that they would benefit from further training. These findings should serve as a call to increase the educational collaboration between internal medicine and radiation oncology departments to ensure optimal cancer care. © 2017 Elsevier Inc. All rights reserved.

## Introduction

Radiation therapy plays a central role in the multimodal cancer care that has been found to produce optimal survival outcomes (1-8). Advances in radiation therapy not only have improved the convenience and ease of treatment but have been associated with improved quality of life and survival (9-14). One particular advancement, stereotactic body radiation therapy (SBRT), has emerged as an excellent treatment for medically inoperable early-stage non-small cell lung cancer (NSCLC) and is considered the standard of care for these patients and those who refuse surgery (15, 16).

NSCLC is a leading cause of death worldwide and is the most frequent cause of cancer death in North America (17). Early-stage disease represents approximately a quarter of patients receiving a diagnosis of NSCLC and is the most curable subset (18). It is important to note that, with the recent adoption of lung cancer screening, the incidence of early-stage disease is expected to rise (19). The standard of care for early-stage NSCLC is surgical resection (20). However, over a quarter of patients will not undergo surgery because of high-risk medical comorbidities or patient refusal (21, 22). Untreated patients with early-stage NSCLC have a very poor prognosis, and the vast majority die of lung cancer (23, 24).

Internists and primary care providers play an essential and growing role in referring and managing the care of patients with newly diagnosed cancers (25-27). Not only have physician surveys shown the vast majority of primary care providers to play a direct role in managing and supporting oncologic care (26), recent patient surveys have also reflected the growing role primary physicians play in guiding cancer treatment decision making (28). Thus knowledge regarding the clinical utility of radiation therapy and advances such as SBRT among primary medical providers is key to ensuring adequate access to these potentially life-prolonging therapies. Despite these realities, the current state of awareness of radiation therapy in general and of more advanced treatments such as SBRT has not been assessed among general medicine practitioners. Therefore, to determine critical gaps in knowledge and training, we evaluated the current state of awareness of radiation therapy among US internal medicine trainees through an educational Internet-based survey.

## Methods and Materials

### Survey

Institutional review board approval was obtained for this web-based multi-institutional study. The survey was titled "Awareness of radiation therapy and non-surgical treatments for early-stage lung cancer." The survey had 3 components evaluating participant demographic characteristics, baseline radiation oncology awareness, and knowledge on the role of SBRT for early-stage NSCLC. The questions on baseline radiation oncology knowledge evaluated the level of confidence participants had in making referrals to radiation oncology in the context of a potential oncologic emergency or in the setting of a newly diagnosed malignancy. Participants were also asked whether they would benefit from more training on when to consult radiation oncology. The section on SBRT for early-stage NSCLC evaluated participant knowledge on the management of early-stage NSCLC and asked about the efficacy, treatment schedule, and general side effect profile of SBRT. An interactive clinical case was included that asked participants to recommend a treatment for a medically inoperable patient with early-stage NSCLC, followed by a conclusion section that provided a summary of the key literature supporting the role of SBRT. Finally, participants were asked whether the survey successfully improved their awareness of the clinical utility of SBRT for early-stage NSCLC and whether they would be more likely to refer a patient for consultation for SBRT. The survey was made available during the last 2 months of the 2015 to 2016 training year to capture the full year of training. The full survey is available in [Appendix E1](#) (available online at [www.redjournal.org](http://www.redjournal.org)).

### Participants

Program directors and coordinators of all accredited US internal medicine residency programs were contacted by E-mail or telephone as per the contact information listed on the Accreditation Council for Graduate Medical Education (ACGME) website. Programs that agreed to participate were asked to distribute the hyperlink of the survey to their trainees. To incentivize participation, all participants

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات