Overview of Stereotactic Body Radiotherapy and the Nursing Role

Karen A. Smink, RN, BSN, OCN®, and Susan M. Schneider, PhD, RN, AOCN®, FAAN

Stereotactic body radiotherapy (SBRT) is a rapidly emerging technology that enhances radiation therapy delivery. It allows for tightly conformed treatment fields and accurate delivery even with moving targets in the body. SBRT currently is used most commonly in treatment of medically inoperable stage I non-small cell lung cancers, as well as lung, liver, and spinal metastases. Studies to date are encouraging for increased local control with acceptable patient tolerance. This article familiarizes nurses with the use of this new technology and proposes the potential nursing role in maximizing patient preparation and follow-up care.

At a Glance
- Stereotactic body radiotherapy (SBRT) is an emerging technology in cancer treatment offering possible improved patient outcomes; however, long-term or late effects still need to be assessed.
- SBRT research is ongoing and includes radiation dose escalation to establish optimal treatment parameters for patients with stage I non-small cell lung cancer, as well as lung, liver, and spinal metastases.
- Patients receiving SBRT are in radiation departments for fewer treatments than traditional radiation, necessitating the delivery of nursing care before and after treatment with other approaches.

Lars Leksell, PhD, in 1951 (Slotman, Solberg, Wurm, & Verellen, 2006). SRS includes delivery of a high dose of radiation in a single fraction to a small target with great accuracy through the use of precise patient immobilization and localization of the target via a three-dimensional coordinate system. SRS was first used to treat brain lesions because of the ability to use a stereotactic coordinate system. SRS was first used to treat brain lesions because of the ability to use a stereotactic coordinate system.

Karen A. Smink, RN, BSN, OCN®, is a nurse clinician in the Department of Radiation Oncology at Duke University Medical Center and Susan M. Schneider, PhD, RN, AOCN®, FAAN, is an associate professor and director of the graduate oncology nursing specialty in the School of Nursing at Duke University, both in Durham, NC. No financial relationships to disclose. Mention of specific products and opinions related to those products do not indicate or imply endorsement by the Clinical Journal of Oncology Nursing or the Oncology Nursing Society. (Submitted April 2008. Accepted for publication July 29, 2008).

Digital Object Identifier:10.1188/08.CJON.889-893