

## **Retrospective Study Suggests that Stereotactic Ablative Radiotherapy (SABR) Can be a Viable Option for Treating Early-Stage Lung Cancer in Operable as well as Inoperable Patients; ...**

The Associated Press

Noninvasive stereotactic ablative radiotherapy (SABR), a technical term for radiosurgery in the body, can be a viable option for treating operable cases of early-stage lung cancer, with outcomes that compare favorably to more invasive surgery, according to a study published in the May 2012 issue of the International Journal of Radiation Oncology, Biology, Physics.[1] Speaking at a symposium sponsored by Varian Medical Systems (NYSE: VAR) in Las Vegas earlier this week, co-author Ben Slotman, M.D., Ph.D., of the VU University Medical Centre in Amsterdam reported that, for potentially operable patients with Stage I non-small cell lung cancer (NSCLC), SABR produced tumor control rates that are comparable to those achieved using surgery.

Professor Slotman and his colleagues retrospectively reviewed records for lung cancer patients who were treated in his department between 2003 and 2010. Among about 1,000 patients treated with SABR, the researchers identified 177 (101 males and 76 females) who could have been candidates for surgery but who instead received SABR.

"Among these patients, the one- and three-year survival rates were 95 percent and 85 percent respectively," said Dr. Slotman. "The local tumor control rate after three years was 93 percent, and the median overall survival time was 61.5 months. No patients died in the first 30 days after treatment. Had these patients been treated surgically, we would have expected a 2.6 percent mortality rate, based on the Thoracoscore predictive model." [2] Forty-two percent of patients in the study reported no early side effects with the SABR treatments. Those that did experience early side-effects experienced fatigue (25 percent), cough (14 percent), local chest wall pain (11 percent) and dyspnea (10 percent), with some patients reporting more than one side effect. Most side effects were mild. Late side effects of SABR consisted of radiation pneumonitis in two percent of patients and rib fractures in three percent of patients.

The study authors conclude that NSCLC patients with potentially operable disease who underwent SABR had an excellent outcome after SABR. "This finding supports ongoing randomized studies comparing surgery and SABR in patients with operable stage I NSCLC," said Dr.

Slotman.

In another presentation, Jeffrey Bradley, M.D., professor of radiation oncology at

Washington University in St. Louis, provided an overview of a phase III randomized trial that is now accruing patients and will attempt to compare surgery with stereotactic body radiotherapy (SBRT) more systematically. SBRT is a term used interchangeably with SABR; both refer to a method of treating a tumor with a carefully shaped and precisely targeted high-energy radiation beam to damage tumor cell DNA and kill the cancer cell. The trial is being jointly sponsored by the American College of Surgeons Oncology Group (ACOSOG) and by the Radiation Therapy Oncology Group (RTOG), two organizations that manage nationwide cancer treatment studies.

"The earlier side-by-side comparisons, such as the study by Dr.

Slotman and his colleagues, have suggested that SBRT provides similar overall and cause-specific survival rates compared to surgery," said Dr. Bradley. "However, these studies use non-randomized data and often compared a relatively healthy population of patients who had surgery with a less healthy, population treated using SBRT. The ACOSOG/RTOG trial seeks to balance the health of patients in both study arms to determine more definitively whether surgery and SBRT provide similar cure and toxicity rates. This is a very important study because it will help to define the optimal management of patients with early-stage lung cancer," Dr. Bradley added.

The two clinical experts spoke to members of the American Radium Society at a satellite symposium that took place during the Society's 94th Annual Meeting in Las Vegas.

About Varian Medical Systems Varian Medical Systems, Inc., of Palo Alto, California, is the world's leading manufacturer of medical devices and software for treating cancer and other medical conditions with radiotherapy, radiosurgery, and brachytherapy. The company supplies informatics software for managing comprehensive cancer clinics, radiotherapy centers and medical oncology practices. Varian is a premier supplier of tubes and digital detectors for X-ray imaging in medical, scientific, and industrial applications and also supplies X-ray imaging products for cargo screening and industrial inspection.

Varian Medical Systems employs approximately 6,000 people who are located at manufacturing sites in North America, Europe, and China and approximately 70 sales and support offices around the world. For more information, visit <http://www.varian.com>. Varian's medical devices are indicated to provide stereotactic radiosurgery and precision radiotherapy for lesions, tumors, and conditions anywhere in the body when radiation treatment is indicated. While clinical studies such as those highlighted here may support the effectiveness of Varian's technology when used for radiotherapy or radiosurgery, individual results may vary. There are no guarantees of outcome, and Varian's regulatory clearances do not incorporate survival claims.

[1] Lagerwaard F.J. et al., Outcomes of stereotactic ablative radiotherapy in patients with potentially operable stage I non-small cell lung cancer. *Int J Radiat Oncol Biol Phys*. 2012 May 1;83(1):348-53.

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[2] Chamogeorgakis TP et al. Thoracoscore predicts midterm mortality in patients undergoing thoracic surgery. J Thorac Cardiovasc Surg.

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