SOCIETY OF INTERVENTIONAL RADIOLOGY
Enhanced care through advanced technology℠

3975 Fair Ridge Dr
Suite 400 North
Fairfax, Virginia
22033
703.691.1805
703.691.1855 fax
www.SIRweb.org

CONTACT:
Emily Oehler (703) 460-5572
Emily@SIRweb.org

EMBARGOED FOR RELEASE: July 17, 2006

Non-Surgical Treatment Gives Patients with Inoperable Lung Cancer Three Years or More

Interventional Radiologists' Outpatient Procedure Uses Heat to Destroy Lung Tumors

Fairfax, Virginia – Fifty-seven percent of lung cancer patients who were treated with thermal ablation survived to three years, two years beyond average life expectancy, according to research in the July issue of the *Journal of Vascular and Interventional Radiology* (JVIR). The patients had early-stage, I-II, non-small cell lung cancer (NSCLC). During thermal ablation, an interventional radiologist uses imaging to guide a small needle through the skin into the tumor. Energy is then transmitted to the tip of the needle to "cook" and kill the tumor with heat or "freeze" it with cold.

"Only one-third of patients diagnosed with non-small cell lung cancer are eligible for surgery – the rest face the reality of having less than 12 months to live," states study author Damian Dupuy, M.D., of Rhode Island Hospital. "These new outpatient treatments not only are effective, but allow us to treat patients who historically have no other options. Utilizing imaging and targeted thermal ablation, we can heat and destroy lung tumors, and extend a patients life. As a physician, it's so gratifying to be able to provide a treatment that is so beneficial to patients and so easy for them to undergo."

The purpose of this study was to evaluate the clinical outcomes of patients with early-stage NSCLC after combined treatment with thermal ablation and radiotherapy, and it showed that the combination therapy may result in an improved survival over either modality alone.

About the Study

The patients in the study were terminal, with a life expectancy of less than one year, and were not surgical candidates according to the oncology team which consisted of a pulmonologist, medical oncologist, radiation oncologist and thoracic surgeon. Twenty-seven of the patients who underwent thermal ablation subsequently received external-beam radiation, the primary treatment in patients who are considered poor operative candidates. Fourteen patients underwent thermal ablation followed by interstitial brachytherapy, which is radiation therapy given internally to the tumor with a catheter. Of the 41 patients, 97.6% survived to six months, 86.8% to one year, 70.4% to two years and 57.1% to three years. The median follow-up was 19.5 months with an average survival of 42.2 months. The patients with tumors smaller than 3 cm (n=17) had the best outcomes, with an average survival of 44.4 months.

—more—

About Thermal Ablation

Tumors need a blood supply, which they actively generate, to feed themselves and grow. As vascular experts, interventional radiologists are uniquely skilled in using the vascular system to deliver targeted treatments via catheter throughout the body or percutaneously through the skin. In treating cancer patients, interventional radiologists can attack the cancer tumor from inside the body without medicating or affecting other parts of the body. These minimally-invasive treatments are much easier on the patient than systemic therapy. Thermal ablation can be given without affecting the patient's overall health and most people can resume their usual activities in a few days. The treatment usually does not require general anesthesia and is typically performed on an outpatient basis. Thermal ablation treatments are a growing area in interventional oncology, a specialty area of medicine within interventional radiology. In this study, the two types of thermal ablation used were radiofrequency and microwave.

Radiofrequency ablation (RFA) offers a non-surgical, localized treatment that kills the tumor cells with heat, while sparing the healthy lung tissue. During the procedure, the interventional radiologist guides a small needle through the skin into the tumor. From the tip of the needle, radiofrequency (electrical) energy is transmitted to the tip of the needle, where it produces heat in the tissues. The dead tumor tissue shrinks and slowly forms a scar. In a small number of cases, RFA can extend patients' lives, but it is generally palliative. Depending on the size of the tumor, RFA can shrink or kill the tumor, extending the patient's survival time and greatly improving their quality of life while living with cancer.

Microwave ablation utilizes electromagnetic microwaves to agitate the water molecules in the tumor and surrounding tissue, ultimately reversing the cells' polarity. This change in polarity causes the cells to rotate back and forth, causing friction and heat which kills the cell (coagulation necrosis).

About the Society of Interventional Radiology

Interventional radiologists are board-certified physicians who specialize in minimally invasive, targeted treatments. They use X-rays, MRI and other imaging to advance a catheter into the body, usually in an artery, to treat at the source of the disease non-surgically. They are certified in both Diagnostic Radiology and Vascular & Interventional Radiology. As the inventors of angioplasty and the catheter-delivered stent, interventional radiologists pioneered minimally invasive modern medicine, and provide treatments that offer less risk, less pain and less recovery time compared to open surgery. More information can be found at www.SIRweb.org.

Local interviews, medical illustrations and broadcast quality video footage are available by contacting SIR's Communications Department at Emily@SIRweb.org or (703) 691-1805.

# # #