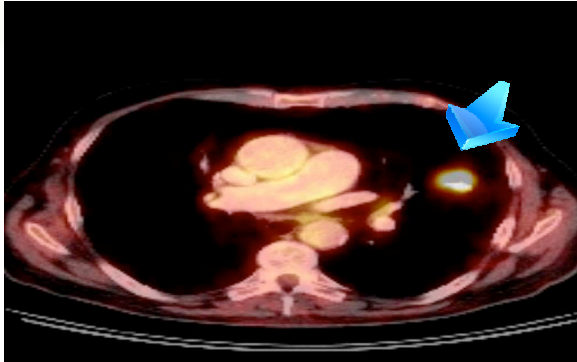
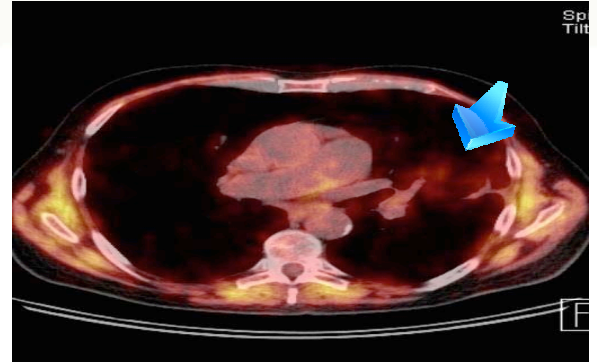


CASE STUDY

Treatment of Non-Small Cell Lung Carcinoma



PET images prior to CyberKnife treatment.
Note lesion appears as bright area in lung field.



PET images one year following CyberKnife treatment. No lesion noted, although some scar tissue is apparent.

Patient History

In May of 2008, a 65-year-old man underwent a bronchoscopy following a long history of COPD and an acute episode of shortness of breath and pneumonia. A biopsy obtained during bronchoscopy confirmed the diagnosis of stage I non-small cell lung carcinoma. PET imaging demonstrated a 1.5cm intense and diffuse hypermetabolic nodule to the left upper lung lobe. The patient was given multiple options of treatment including surgery to remove the lesion, 4-5 weeks of conventional radiation therapy, or three stereotactic radiosurgery treatments using the Cyberknife. After reviewing his treatment options, the patient chose Cyberknife.

CyberKnife® Advantage

Stereotactic radiosurgery with CyberKnife involves constant tracking of the lesion during a patient's normal respiration using Synchrony System technology, so there is no need for breath holding -- an important benefit to the patient who may have COPD or another lung condition that makes breath holding difficult. In contrast, during conventional lung radiation therapy, breath holding techniques are often used, resulting in larger areas of healthy lung being treated.

Treatment

This patient was brought into the CyberKnife Center for a Pre Treatment Set Up in which he was fitted for an Alpha cradle -- a body immobilization device. He was then escorted to the hospital's radiology department for a CT and an MRI. The images were downloaded for the treatment planning in which 6000cGy was prescribed to the 84% isodose line. The lesion size was 24.1cc. The patient's treatments were delivered in 3 consecutive days. The patient tolerated the treatment well, and he resumed normal activities almost immediately.

Outcome & Follow-Up

At four (4) months after CyberKnife® treatment, the patient's weight was stable, his appetite was normal, and he had an increase in activity when compared to his pre-treatment activity. His follow up CT revealed a decrease in lesion size. At one (1) year post treatment, his PET imaging demonstrated no evidence of recurrent disease (NED).

CyberKnife Team:

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