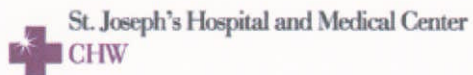


NON-SMALL CELL LUNG CANCER LEFT UPPER LUNG



St. Joseph's Hospital/Arizona Oncology Services
CyberKnife® Team:

Radiation Oncologist: John Kresl, M.D., Ph.D.

Medical Physicist: Ray Rodebaugh, Ph.D.

Radiation Therapist: Nancy Bernstein, R.T.(T.)

CyberKnife Center: St. Joseph's Hospital/
Arizona Oncology Services
Phoenix, AZ

NON-SMALL CELL LUNG CANCER LEFT UPPER LUNG

DEMOGRAPHICS

Sex: F
Age: 65
Histology: Poorly differentiated non-small cell lung carcinoma with focal squamous features as T1 N0 M0 stage grouping I

CLINICAL HISTORY

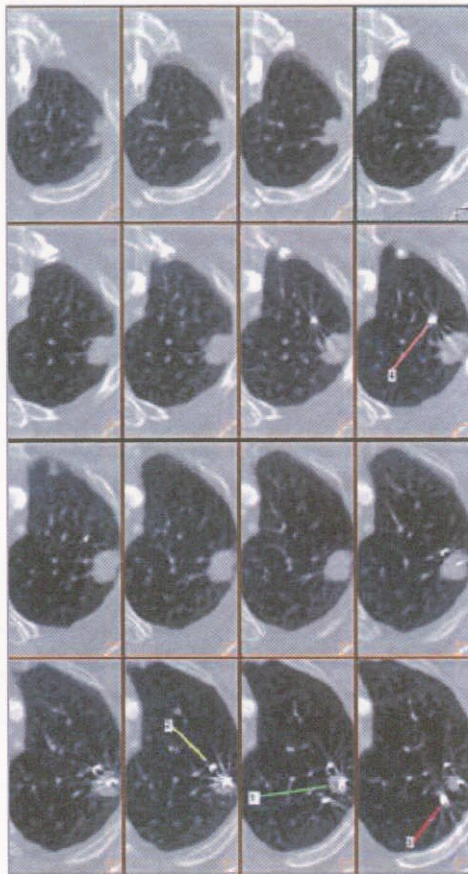
Referred by: Pulmonologist
Previous Treatment: None

Case History

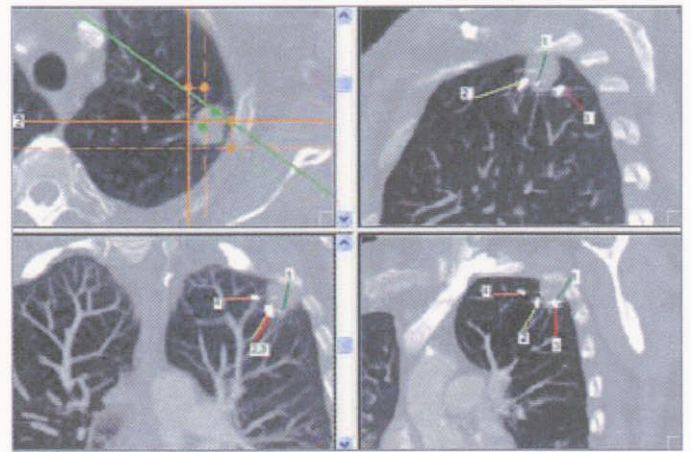
A screening chest X-ray demonstrated a 1.5 x 2.0 cm pulmonary nodule in the left upper lobe. Diagnostic images two years earlier demonstrated no evidence of a pulmonary nodule. A PET/CT scan identified a left upper pulmonary nodule with a maximum SUV of 22.7, suspicious for pulmonary lung malignancy. There was no evidence of distant disease. A CT-guided needle biopsy obtained a 0.1 x 1.2 cm sample of tissue; pathologic review of the biopsy specimen was consistent with poorly differentiated non-small cell lung cancer (NSCLC).

CyberKnife Treatment Rationale

The patient refused surgery because she was concerned about a prolonged recovery. Her other treatment option in a non-surgical setting was radiation therapy. It was determined that the patient would be best treated with a stereotactic radiosurgery approach. Recent studies had shown that stereotactic body radiation therapy¹ had achieved therapeutic outcomes in the short run that approximated those achieved with surgical resection. Other studies revealed the feasibility of CyberKnife treatment of lung lesions.^{2,3}



Pretreatment CT: Sixteen consecutive 1.25 mm axial CT slices demonstrate an ovoid tumor dimension of 1.5 x 2.0 x 2.1 cm. Note the location of the four fiducials within the tumor (#1) and in close proximity to the tumor in the lung parenchyma (#2, 3 and 4).



Pretreatment CT: Multiplanar reformatted images show the lung tumor with four fiducials positioned in relationship to the ribs, bronchi and other anatomical landmarks. As in the previous figure, numbers indicate the 4 fiducial markers.