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学位論文の題名	<p>The Fate of Residual Tumor Masses That Persist After Stereotactic Body Radiotherapy for Solitary Lung Nodules: Will They Recur? (肺定位放射線治療後の残存腫瘍：その再発の可能性は?)</p> <p>Clinical Lung Cancer (accepted for publication)</p>
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### **Abstract**

After stereotactic body radiotherapy (SBRT) of the lung, radiation pneumonitis and fibrotic changes often develop, and the tumor shadow usually becomes indistinguishable from the fibrotic shadow. Occasionally, however, a residual mass is observed on serial CT in patients with no or mild radiation pneumonitis. The purpose of this study was to evaluate the fate of such residual masses and, if possible, to determine the types of tumor that are at increased risk of local recurrence. Fifty patients (underlying disease: primary lung cancer in 45, local recurrence in 2, and metastasis in 3) were selected on the basis that: 1) they were followed-up for >2 years or until death and 2) CT changes were observable and tumor size was measurable for >1 year, regardless of the influence of radiation pneumonitis. The patients' outcomes were compared according to various patient/tumor characteristics including the presence/absence of emphysema, tumor size, and tumor shrinkage rate. The median follow-up was 52 months. Among the 50 patients, only 8 developed local recurrence. The local control rate was 81% at 3 years and 73% at 5 years. The local control rates were similar in patients with a high tumor shrinkage rate and those with a low rate. The patients with emphysema exhibited a lower local control rate. The persistence of lung masses for more than 1 year after SBRT is not necessarily indicative of an increased risk of local recurrence. A low tumor shrinkage rate is not predictive of recurrence.