

## Clinical outcomes of patients treated with multiple SBRT courses to the Lung

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## Abstract

**Objectives:** Stereotactic body radiation therapy (SBRT) has been proven as an effective treatment for medically inoperable patients with early-stage non-small cell lung cancer (NSCLC). However, some patients present with synchronous lung nodules in the ipsilateral or contralateral lobe or metachronous disease. In these cases, patients may receive multiple courses of lung SBRT or a single course for synchronous nodules. There is limited published data on clinical outcomes including toxicity of such treatments. Through this descriptive analysis, we outlined the clinical efficacy of stereotactic radiotherapy on patients who were treated with more than one SBRT course. The primary analyses of this study analyze the outcomes of each SBRT treatment with regards to local control, overall survival, and toxicity of SBRT for this patient population.

**Methods:** Between 2012 and 2015, a total of 64 tumor sites in 57 patients were treated with SBRT to the lung. Of the 57 patients, 5 (8.77%) received more than one course of SBRT, with a total of 12 tumors. Toxicity was assessed according to Radiation Therapy Oncology Group (RTOG)/Common Toxicity Criteria. Local control and overall survival were also described.

**Results:** At median follow-up of 2.9 years, 4 (80.00%) patients are alive. Of the 12 lesions treated, surveillance follow-up is available in 10 (83.33%). Of the 10 lesions that were surveyed, 1 (10.00%) lesion progressed locally, 2 (20.00%) lesions progressed to regional nodes, and 7 (70.00%) lesions were controlled locally. Despite heightened concerns regarding acute toxicity, no clinical toxicities were reported in follow-up for any of the 5 patients.

**Conclusions:** Though we are limited by small sample size, multiple SBRT courses to the lung have demonstrated comparable results to single course therapy with regards to both local control and toxicity. Given that our experience in treating multiple lung lesions with SBRT has been favorable, it is a treatment option that shall continue to remain present, when surgery is not feasible.

### Open Access

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