

Single Dose Pulmonary SBRT: First Clinical Results

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Abstract**Objectives:**

SBRT is used both in early stages of cancer when the patient is inoperable or unwilling to undergo surgery and in oligometastatic states. Our aim is to assess the effectiveness of single-dose SBRT treatment in lung lesions equal to or smaller than 5cm.

Methods:

Retrospective clinical study of 13 patients with lung lesions equal to or smaller than 5cm who were treated with single fraction SBRT at a dose of 30-32Gy.

The cohort consisted of 10 males (76.9%) and 3 females (23.1%) with a mean age of 76 years and ECOG 0-1 69.2%. In terms of histology, 5 (38.4%) were adenocarcinomas, 1 (7.7%) carcinoid, 1 (7.7%) epidermoid and 6 (46.2%) unknown.

Results:

9 (69.2%) patients had primary lesions and 4 (30.8%) had metastatic lesions. 100% of patients showed local control of the lesion at 3-, 9- and 12-month controls with computed tomography (CT) and PET-CT (positron emission tomography) at 6 months. However, 2 patients showed regional and 1 distant relapse.

Median overall survival is 16.6 months and progression-free survival is 14.8 months.

Concerning tolerability, patients experienced 15 acute toxicity events, the most frequent being asthenia (74.6%) and none chronic toxicity. There was no grade 3 or 4 toxicity.

Conclusion(s):

Single fraction SBRT at a dose of 30-32Gy in lung lesions equal to or smaller than 5cm is an effective treatment with good local results and good tolerability.