Cureus

Multiple Primary Lung Cancers: Treatment Outcomes After Stereotactic Body Radiotherapy (SBRT)

Open Access
Abstract
Published 04/02/2023

Angela Zhu [1] , Gyujae Choi [2] , George Chen [3] , Weiyuan Mai [4] , Albert Chen [3]

1. Radiation Oncology, Houston Va, Houston, USA 2. Radiation Oncology, Baylor College of Medicine, Houston, USA 3. Radiation Oncology, VAMC, Houston, USA 4. Radiation Oncology, Michael E. DeBakey Veterans Affairs Medical Center, Houston, USA

Corresponding author: Angela Zhu, angela.zhu@va.gov

Categories: Radiation Oncology
Keywords: early-stage lung cancer, stereotactic ablative body radiotherapy, metachronous lung tumors, synchronous lung tumors, lung cancer

How to cite this abstract
Zhu A, Choi G, Chen G, et al. (April 02, 2023) Multiple Primary Lung Cancers: Treatment Outcomes After Stereotactic Body Radiotherapy (SBRT). Cureus 15(4): a897

Abstract

Objectives:

Patients with lung cancer sometimes present with multiple primary lung cancers (MPLCs), either synchronous or metachronous. Although open surgery remains a treatment mainstay for stage I-II NSCLC, SBRT is an acceptable alternative for patients who are medically unfit or who refuse surgery. We retrospectively examine the outcome among patients with early-stage MPLCs treated at our institution with SBRT.

Methods:

Patients at Michael E. DeBakey VA Medical Center receiving SBRT for MPLC between June 2011 to March 2020 were reviewed retrospectively. Prior to undergoing definitive SBRT, the imaging and pathology for every patient was reviewed in multi-disciplinary pulmonary tumor board. Dose and fractionation varied with the most common prescriptions being 50 Gy/5 fractions, 56 Gy/4 fractions, and 55 Gy/5 fractions.

Results:

38 patients with a total of 80 lesions were treated, T1=68, T2=12 . Median follow-up was 25.9 months, local control (LC) rates calculated per lesion to be 98.6%, 93.3%, and 88.2% at 1, 2, and 3 years. Median overall survival (OS) was 43.5 months; 83.6%, 67.8%, and 52.3% at 1, 2, and 3 years respectively. Sixty-two of the 80 (77.5%) treated lesions had no subsequent acute or late toxicity. The 18 (22.5%) lesions had either grade 1 (13 of 18) or grade 2 (5 of 18), included 9 acute and 9 late events.

Conclusion(s):

SBRT for early-stage MPLC achieves high control rates with limited toxicity. MPLC patients deemed unfit for surgery should be considered for definitive SBRT.