Reviewer’s report

Title: The short-term outcomes of pulmonary metastasectomy or stereotactic body radiation therapy for pulmonary metastasis from epithelial tumors

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Reviewer: Atsushi Watanabe

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The authors concluded that SBRT provides a favorable 3-year local control rate (PM group, 84%; SBRT group, 92%; p=0.32) and OS (76% and 52%; p=0.09), which is comparable to PM, despite patient selection disadvantaging SBRT against PM. PM and SBRT play complementary roles in patients with pulmonary metastases.

I think that the greatest problem is patient selection. PM group included patients with soft-tissue sarcoma or osteosarcoma (n=13, 17%); however, SBRT group included none. I think that epithelial malignancy and sarcoma behave differently in oncological conditions. Should patients with soft-tissue sarcoma or osteosarcoma be excluded from the study to reduce the selection bias?

I have some comments and questions as follows:

# The authors described that thoracotomy was selected when the preoperative computed tomography (CT) findings suggested that the palpation of the nodule during surgery was necessary for detecting the pulmonary nodule or assuring a sufficient margin. Has the preoperative localization of the lesion been performed in this series?

# The criteria for SBRT should be described in Patients and methods.

# In Patients and methods, SBRT was recommended for patients who had some factors contraindicating surgery, including older age, compromised general condition, poor respiratory function, and lung nodule in an unfavorable central location, or if the patient refused to undergo surgery. What is older age? The issue should be concretely described.

# In SBRT group, the patients have not received pulmonary resection. Which date of start or end of SBRT was used as an onset for the survival rate analysis?

# This study includes head-and-neck squamous cell carcinoma (n=8, 36%). How did the authors distinguish PM from head-and-neck squamous cell carcinoma from primary lung squamous carcinoma?

# Lymph node metastasis was pathologically confirmed in 2 patients (3%). What are the criteria for node dissection for PM? The issues should be described in Patients and methods.

# On line 213, there is "comparable4". Confirm if this is correct.

# I also think that the intraoperative performance of rapid margin cytology is useful for reducing the
rate of relapse at the surgical margin. In this study, how many patients underwent the examination and had positive outcomes?

Based on the authors' experience, postoperative complications, such as prolonged air leak, seem to occur frequently when lobectomy was performed in patients with history of esophageal cancer. Is the issue a recommendation for SBRT? I think that the prognoses after the two procedures are not same, and lobectomy should be performed instead of SBRT.

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