Reviewer’s report

Title: Abscopal effect of radiation on multiple lung metastases of lung adenocarcinoma: a case report

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Reviewer: Maurizio MARTINI

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The authors described a case of abscopal effect in a 72-year-old woman with pulmonary adenocarcinoma. The patient was subjected to surgical treatment and pathological analysis showed a final stage IIIA, an EGFR exon 21 mutation and a PD-L1 score <1%. The patient was under watchful observation without adjuvant chemotherapy but, three years later, she had a recurrence of the tumor with multiple mediastinal and right hilar lymph node metastases. Radiation therapy was performed using two opposed lateral fields of 10 MV X-ray over a period of 6 weeks. A CT scan performed 12 weeks later showed a dramatic complete disappearance of the previously observed pulmonary metastases. No chemotherapy was administered during the period. Although the article is interesting, the case report shows a major criticism:

1. The clinical history of the case is not completely clear, especially regarding the use of anti-EGFR therapy. The patient presented lymph node mediastinal metastases after two years from surgery. Since the patient had an activating mutation of the EGFR in the excised tumor, it was presumable to think that the same molecular alteration was present in the metastases. Therefore, it seems strange that the patient has undergone radiation therapy rather than a treatment with specific inhibitors of EGFR. Why this therapeutic choose? In the text it is not clear if the radiotherapy was performed concurrently with the anti-EGFR therapy. It seems concurrently. In fact, the author mentioned the anti-EGFR therapy with the phrase "EGFR tyrosine kinase inhibitor (TKI) treatment was planned as a start" then the treatment was from the beginning so that they reported the absence of cytotoxic effect of EGFR-TKI. The abscopal effect of irradiation is described as the out-of-field response to localized irradiation therapy that results in systemic antitumorigenic effects such as the regression of a tumor distant from the target site. The effect is probably mediated by immune-response to the radiotherapy "alteration" of the tumor. In this case the dramatic complete disappearance of the tumor was probably due to the concomitant EGFR-TKI treatment and radiotherapy. The abscopal effect of irradiation does not make sense to exist in this case report. Only a clear explanation of the history of the clinical case could resolve doubts.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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