Reviewer's report

Title: Endoscopic Central Airway Recanalization To Enable First Line Pembrolizumab Treatment In A PD-L1 Strongly Positive Non-Small Cell Lung Cancer: A Case Report

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Reviewer: Rajesh Sekar

Reviewer's report:

The authors present an interesting, novel, and multidisciplinary approach to the treatment of a patient with metastatic non-small cell lung cancer involving endoscopic recanalization of a stenotic central airway followed by immunotherapy. While the case report contains an important clinical message and will certainly be of interest to the readers of the Journal of Cardiothoracic Surgery, I'd like the authors to clarify and address few areas of concern to me that warrant inclusion of additional details. First off, while pembrolizumab therapy is associated with a risk of immune-mediated pneumonitis, colitis, hepatitis, nephritis, and endocrinopathies, there is no absolute or relative contraindication to the initiation of pembrolizumab therapy as cited by the authors. Hence, the statement "the presence of lung infection is a contraindication to treatment" is misleading and warrants revision. It may be better to state that endoscopic recanalization and treatment of central airway obstruction was achieved prior to initiation of immunotherapy so as to minimize the risk for immune-mediated pneumonitis in a patient with a history of recurrent episodes of pneumonia. While it is significant to note that endoscopic recanalization helped resolve atelectasis and improve dyspnea and general clinical status of the patient, I'd like the authors to offer additional details on how long they waited since the recanalization procedure before initiation of immunotherapy. Authors report that a post-procedure CT chest after 1 week showed resolution of atelectasis and pneumonia and hence the patient was deemed eligible for immunotherapy and if 1 week is indeed the time the team waited before initiation of therapy, a statement like "endoscopic recanalization of right main bronchus resolved recurrent lung infections" is again misleading and little far fetched. If the authors in fact waited longer than a week (say if the patient was observed for several weeks without any recurrent episode of pulmonary infection) it is important that they share information on time period between recanalization and initiation of immunotherapy and if patient remained free of pulmonary infections during this time period. The authors claim in the abstract section that 'at nine month follow-up, the patient was alive with stable disease", but in actual description of the case, they say "after four months, the patient is still alive without disease progression". It is unclear if the actual follow-up period is 4 months or 9 months. This will need to be clarified. Also, though not a major concern, the authors may want to consider revising few of the terms to keep up with the more common terminologies used by the larger audience in the field of cardiothoracic surgery, such as revising "non small cell lung cancer" to "non-small cell lung cancer", "immune therapy" to "immunotherapy", "immune check-points inhibitors" to "immune checkpoint inhibitors". Finally, though not a major dealbreaker, I'd like the authors to proofread for spacing and grammar before their final submission - for example, in the main title a space is needed between "pembrolizumab" and "treatment". Despite the above-mentioned areas of concern to me that warrant further revision and clarification, I find the case report to be novel and interesting in its approach to combining
endoscopic recanalization with immunotherapy for patients with metastatic non-small cell lung cancer suffering from central airway obstruction and atelectasis-related pulmonary infections. In summary, this is an interesting case report that needs further revision before it can be accepted for publication in the Journal of Cardiothoracic Surgery.

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