Reviewer's report

Title: Expression of Matrix Metalloproteinase-9 as an Independent Prognostic Factor for Recurrence in Patients with Resected Lung Adenocarcinoma

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Reviewer: Bernard J Park

Reviewer's report:

This is a retrospective review of a single institution experience evaluating MMP-9 expression by IHC and outcome of patients treated upfront by surgical resection for localized NSCLC. It is an interesting study and may be suitable for publication pending revision. The major flaw in the study is evaluation of MMP-9 expression based on a somewhat arbitrary definition of positive IHC staining. Another weakness is the post-hoc analysis excluding non-adenocarcinoma histologic subtypes. Other comments:

1) The title of the study is misleading - the study was really an evaluation of MMP-9 expression and prognosis in surgically treated lung cancer. (Major revision)

2) In the Methods section the authors state that patients underwent abdominal sonography as part of the preoperative evaluation - this is unusual. Please explain.

3) Also in the methods the authors should state clearly that staining for MM9 was done retrospectively and with IRB approval for the study and review of clinical outcomes. (Major revision)

4) In the Methods the authors stage that the patient's characteristics are listed in Table 1 - this should be moved to the Results (Minor Revision)

5) In the Results the authors do not state whether patients with stage II or III disease received adjuvant therapy - chemotherapy or radiation (Major Revision)

6) In the Discussion the authors need to give more reasons or evidence to support why they chose to use median IHC score to define MMP-9 tumor expression presence or absence.

7) In the Discussion the authors should justify why they performed a subset analysis of just the adenocarcinoma patients - to the reader it appears they noticed post hoc that more adenocarcinoma patients had MMP-9 expression and decided at that point to just look at the adeno patients. Why would adenoca patients have different levels of MMP-9 expression than squamous cell patients of the same stage?

8) In the Conclusions the statement that MMP-9 expression is an independent poor prognostic factor for relapse in lung adenoca is too strong given the level of evidence.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

No competing interests