Reviewer's report

**Title:** Matrix Metalloproteinase-9 Mediated Inflammation Persists up to 6 Months after Smoking Cessation

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**Reviewer:** Charles McSharry

**Reviewer's report:**

Matrix Metalloproteinase-9 Mediated Inflammation Persists up to 6 Months after Smoking Cessation. Louhelainen Noora et al.

This is a well written manuscript on a topic of interest by an appropriate research group. Ex-smokers are an understudied group partly because they are difficult to recruit therefore this is a useful topic.

The authors found that there was a reduction in MMP7,8 but over time and an increase in MMP9 at 3 months.

The authors could comment on the significance of MMP7, 8 and the clinical significance of their reduction.

Was there any correlation between lung function and any sputum biomarker? Was there any correlation between neutrophil proportion or absolute count and MMP9?

The longitudinal data should be shown as individual dot plots and analysed accordingly to show if the changes were consistent between individuals and not random between individuals.

The largely normal lung function at baseline suggests that these were not very compromised patients. This study would be more informative using patients that would allow biomarker comparisons to be made with any improvements in lung function. It is difficult to interpret changes in MMPs if the lung function changes are unknown therefore the last sentence in the abstract referring to ongoing lung damage in the conclusion is unwarranted.

The striking observation of a high MMP9 at 3 months probably deserves more critical assessment in the discussion.

**Level of interest:** An article of limited interest

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:

'I declare that I have no competing interests'