Reviewer's report

Title: Clinical significance of erythropoietin receptor expression in oral squamous cell carcinoma

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Reviewer: Chia Jui Yen

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This is an interesting study using relatively large amount of oral squamous cell carcinoma patients. Authors find that erythropoietin receptor expression in oral squamous cell carcinoma is a prognosis biomarker, associated with advanced tumor status and poor five years survival. However this study raises several major concerns. 1) Authors collected 256 OSCC patients who received primary surgical resection samples and test the EPOR expression. Although the high expression of EPOR associated with poor five years survival, however when OSCC patient recurrence after surgical resection patients may receive different kinds of salvage treatment such as chemotherapy plus or no radiotherapy depend on the recurrent status (local recurrent or distant mets). Authors need to clarify what kinds of salvage treatment patients received. That would make the over expression EPOR associated poor prognosis is related to chemotherapy or radiotherapy resistant (due to hypoxia) or the expression of EPOR is associated with aggressive tumor growth. Authors need to correlate the EPOR expression with the disease free survival after surgery that would make the treatment impact not confused the study result. 2) Authors used four pair of tumor tissues and adjuvant non-tumor oral tissue to test the EPOR mRNA expression and the EPOR protein expression that show the expression level is high in tumor tissue compared with adjuvant non-tumor oral tissue. However the four pairs samples is related small groups compared with the 256 OSCC patients they test in this study. Authors need to test more pair tissue samples to verify their important finding that advanced OSCC patients (T3, T4 or node positive) EPOR overexpression rate is higher than early stage OSCC patients (T1, T2 node negative) and show the significance. This may answer why in the multivariate analysis showed only the T and N classification were independent prognosis factor of five years survival but the EPOR overexpression factor is not significant with five years survival.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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'