Reviewer's report

Title: Distinct gene subsets in pterygial formation and recurrence: dissecting complex biological phenomenon using genome wide expression data

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Reviewer: Dwight Cavanagh

Reviewer's report:

Overall, this is the best new paper in many years on pterygium formation and recurrence which presents novel data on distinct gene activation subsets. This will be a paper of record in the pterygium research field.

The manuscript as written however, needs some required minimal revisions as follows:

1. The word "pterygial" in the title needs to be changed to "pterygia."
2. The authors need to revise their conclusions to state that one limitation of their study is the absence of data on P53 and related activation of genes associated with a pseudo neo-plastic phenotype such as VEGF. If, for example the cell of origin of pterygium formation is a UV-transformed corneal epithelial stem cell, then the use of normal conjunctival cells from the contra lateral eye may be insufficient, and future studies are needed to resolve the issue.

Overall however, this is an outstanding study that contributes much new and important information to our understanding of this visually threatening condition.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

none