Reviewer's report

Title: Study on establishment and mechanics application of finite element model of bovine eye

Version: 1 Date: 17 March 2015

Reviewer: Yin Shen

Reviewer's report:

In this manuscript, the authors developed an anatomical-detailed bovine eyeball FEM, provided a biomechanical evidence to explain why peripheral RGCs die earlier under high IOP.

It is a very interesting result. Methods are appropriate and well described.

The major question should be addressed as following:

Were the lamina cribrosa (LC) and the retinal ganglion cells under the same injury with the increase of intraocular pressure in the FE modeling? The damage threshold of these two different cells should be different, more discussion need to be addressed.

Other questions:

1) English writing need to be well polished by native English speaker. For instance “influencing factors” should be “risk factor” #p4. 95#. Also there are too much typo.

2) Limitations of the work should be clearly stated.

3) The author need to acknowledge published work upon which they are building. For example “Most previous studies used linear elastic material when selecting the material parameter of the eyeball model” should quote some previous reference. P9,245.

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests