Reviewer’s report

Title: The chemotactic properties of various topical brimonidine tartrate ophthalmic preparations

Version: 0 Date: 09 Oct 2019

Reviewer: Ammar Bin Sadiq

Reviewer's report:

Abstract: results are very brief and lack any statistical reference. Conclusion: wording needs rearrangement; "Avoiding known formulations may contribute to minimizing undesirable iatrogenic inflammatory processes...".

Background: author has used slightly outdated data and certainly did not mention one of the most widely used glaucoma treatment; prostaglandin analogues. Page 6: They also has referred to drops as a class of medicine as in beta blocker ( e.g. timolol) but then follows by mentioning a different medication in its generic name as in pilocarpine (which is a cholinergic agonist). I suggest either mentioning drugs in their class or preferably the generic form when comparing drugs head to head (e.g. timolol vs pilocarpine vs brimonidine OR beta-blocker vs cholinergic agonist vs alpha agonist). In addition, epinephrine is not used a glaucoma medication. Author did not include all classes of medicines that are used to treat glaucoma (e.g. prostaglandin analogues and carbonic anhydrase inhibitors)

Page 6, line 36: This is wrong. "However, beta blockers, pilocarpine, and epinephrine are no longer the mainstay of glaucoma therapy in the 21st century ". I refer the author to the International Council of Ophthalmology Guidelines for Glaucoma Eye Care and the American Academy of Ophthalmology, and their publications which outlines the current practice and recommendation for glaucoma drops.

Page 6, line 60: I believe this a typographical error "hypotension"

Method are easy to follow and understand but the details are beyond my expertise so I cannot comment on the technical details.

Results section is far too brief for a scientific journal.

Discussion: prostaglandin is a known pro-inflammatory molecule. Prostaglandin analogues is a widely used glaucoma medication, in fact it is considered a first line treatment by many ophthalmologists. Author has failed to reference any articles/studies that compared, for example, brimonidine vs latanoprost. Since the aim of the current study is to observe the inflammatory response of leukocytes, prostaglandin analogues deserve a mention.

Overall the aim of the study is novel and the actual study seem to have been well conducted. However, the literature review, results and discussion needs major attention.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Unable to assess

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
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Yes

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I recommend additional statistical review

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Please indicate the quality of language in the manuscript:

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