Reviewer's report

Title: Ex vivo anti-microbial efficacy of various formaldehyde releasers against antibiotic resistant and antibiotic sensitive microorganisms involved in infectious keratitis.

Version: 0 Date: 04 Sep 2019

Reviewer: Praveen Balne

Reviewer's report:

Reviewer's Comments to Authors:

The manuscript entitled "Anti-microbial Efficacy of Various Formaldehyde Releasers (FARs). Increasing our Armamentarium against Antibiotic-Resistant Microorganisms for Infectious Keratitis" done by Amponin et al., reports the effectiveness of FARs in combating drug resistance pathogens causing keratitis. They have studied microbicidal activity of 5 FAR compounds against 5 pathogens. The presented in-vitro data in the manuscript looks promising. However, beyond the potentiality of the manuscript, I have a few minor concerns that the authors may address before going to publish in BMC Ophthalmology.

Minor comments:

1. Please write the pathogen names in "italic" throughout the manuscript.
2. Page 5, line 160: Please correct the spelling "nitoalcohols"
3. Page 6, line 201: Please mention MSSA growth conditions too.
4. Page 7, line 225: For the graphs, only SMG dosages were plotted or all FARs dosages were plotted? Please correct it.
5. Page 7, line 240: Please correct it to "DMDM 100 mM"
6. Page 8, line 257-259: DAU, DMDM, and SMG all showed some effectiveness with greater effects observed with the longer incubation time of 120 minutes.

The mean kill rate was 64% for DAU 20 mM at 60 min and 38% at 120 min. Please explain.

Similarly for PA, the mean kill rate was 51% for DAU 20 mM at 60 min and 19% at 120 min.

For CA, the mean kill rate was 72% for DAU 100 mM at 60 min and 53% at 120 min.

For VRE, the mean kill rate was 62% for DMDM 40 mM at 60 min, and at 120 min it was 44%.
For PA, the mean kill rate was 69% for DMDM 40 mM at 60 min, and at 120 min it was 16%.
7. Page 8, line 267-268: Similar to MSSA, MRSA growth was inhibited in a dose-dependent manner using DAU, SMG, DMDM and NT.

There was no dose dependent growth inhibition was observed for NT at 120 min.

8. Table 3: for CA, DMDM 40 mM showed growth kill rate of 42% (p=0.336) at 60 min. But 23% and 37% growth kill rates for 20 mM and 40 mM at 120 min showing p=0.000. Please re-check it.

9. Please mention the FAR compounds which showed consistent trend (dose vs time dependent) in the manuscript.

10. Figures are not clear. Please make it clearer.

11. This study would be more interesting if, the authors have included more clinical isolates and studied the toxicity of each tested compound using corneal epithelial cell cultures.

Thank You

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

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