Reviewer's report

Title: A Novel Fungus Concentration-Dependent Rat Model for Acute Invasive Fungal Rhinosinusitis: an experimental study

Version: 1 Date: 15 September 2014

Reviewer: Vishnu Agarwal

Reviewer's report:

The submitted manuscript is based on the development of experimental Rat model for acute invasive fungal rhinosinusitis (AIFR). The manuscript is based on the development of AIFR on rat models by using Aspergillus fumigates, a common human pathogen. The authors in their submitted work has developed rat model against AIFR and by using different concentration of fungal spores they successfully demonstrated the establishment of rat model system and also reported the de-granulation of mast cells in the nasal cavity.

The overall readability of the manuscript need to be addressed and should be corrected by native English speaker. Following are the important observations/corrections which need to be made before it publish to the journal:

Minor essential revisions:

Why authors have used three concentrations like 5x10^7, 10^7 , and 10^6 conidia/ml, why the concentration 5x10^6 has not been chosen?

• Authors have not given any reason for AIFR rat model to develop 90%, 50% and 10% infection in group A, B or C respectively. It should be incorporated to establish a successful and efficient AIFR based model. Was it earlier optimized?

• Authors used the SD rats which are 6-8 week old and have body weight around 230 g. How authors can claim that the model is useful for rat of different age and weight?

• In material methods: what is [SYXK(JUN)2012-0014], author may remove the same if not necessary.

• What was the basis of selection of concentration/dosage of CPA or CA? was it earlier optimized or it is standard? Background or reference should be added.

• In histopathology study (material and method section): in second line authors have used the word ‘sigama’ what is that if it is company it should be ‘sigma’ followed by country name.

• In the discussion authors mentioned that A. fumigatus with >10^8 cause high mortality rates (>50%), the fact should be supported by reference.

Major revisions:
• Brackets and full stops, repetition of words, short and scattered sentences, spaces between the words throughout the manuscript is matter of concern and need to be address. For example, here mast cell is written as ‘MCs’ and in many places as ‘Mast cells’.
• The authors should clarify the is it a “fungal concentration dependent” model system or general model system and according to that the title should be modified
• Why authors have counted total neutrophil, how this is relevant and in synchronization with current work? The neutrophil have totally different aspects in infections. Either the section should removed are should be supported with justification/supporting studies.

Level of interest: An article whose findings are important to those with closely related research interests

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