Reviewer's report

Title: Hospital days, hospitalization costs, and inpatient mortality among patients with mucormycosis: a retrospective analysis of U.S. hospital discharge data

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Reviewer: Georgios Samonis

Reviewer's report:

This is an interesting retrospective study that attempted to analyze mortality rates, cost and length of hospital stay among patients who received a diagnosis of mucormycosis in a large US nationally representative database. The results add to the limited literature on epidemiology of mucormycosis and merit publication to BMJ. The manuscript is concise and clearly written and methods seem appropriate. However, the authors need to convincingly address important issues before the manuscript gets accepted for publication.

Major points

Mortality rates (22%) are substantially lower than those reported in the literature (50% to 90%). The authors need to comment on that by providing information on mortality related to the type of infection (e.g. skin and soft tissue infection, pneumonia, disseminated, rhinocerebral, GI etc).

In addition, separate analysis should be performed on other epidemiological features related to the type of infection.

Another important feature should be the trends in epidemiology of mucormycosis over the years of the study. For example, did the prevalence, LOS etc remained stable during the study. This is important to note because new therapeutic interventions (e.g., posaconazole treatment) became available over the latter years of the study.

Is there any information on mortality and LOS etc related to type of therapy, surgery etc administered to the patients?

Definition of diagnosis of mucormycosis is not provided by the authors. It is important that the authors clarify criteria (e.g., EORTC MSG) used for diagnosis. It is also important to clarify that many cases of probable or possible diagnosis may have been missed. This is particularly relevant in view of the absence of surrogate markers for diagnosis of mucormycosis as opposite to other IFIs.

It would have been much more informative to compare the prevalence, length of hospital stay and economic burden in comparison to invasive aspergillosis or other IFIs. The authors should try to analyze these parameters.

Finally, it is important to state the limitations of this and other epidemiology studies in capturing true incidence of mucormycosis that are related to the challenges in achieving a timely diagnosis.
Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests