Reviewer's report

Title: Clinical and laboratory characteristics of penicilliosis marneffei among patients with and without HIV infection in Northern Thailand: a retrospective study

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Reviewer: Thuy Le

Reviewer's report:

Penicilliosis continues to emerge in patients with AIDS and other immune deficiencies in Asia. This is the largest case series to date (N=34) of penicilliosis in patients who are not infected with HIV. Clinical features and treatment experiences in these patients are of interest to clinicians both in and outside of endemic regions. The authors did a good job comparing the disease in HIV-infected and in HIV-uninfected patients, but this comparison should only be a mean to an end. The focus of this paper should be what clinicians are truly interested in knowing, and what they are interested in is a detailed characterization of the disease in patients without HIV infection, as there is relatively a lot more data on clinical features of penicilliosis in AIDS.

Compulsory revisions:

1. Focus on improving the characterization of this special group of patients, report in greater detail the investigation of their underlying immune defects, eg. in patients with Lupus, how much steroid/how long it had been used? What types of malignancy? whether they were receiving chemotherapy and/or other immunosuppressive medications? What were the underlying diseases of the 6 patients receiving immunosuppressive drugs? What drugs? Since a CD4 count were tested in these patients, I am curious as to whether/what other immunology investigations were performed? For example, were interferon gamma receptor antibody tested in these patients?

2. Describe in greater details the choice and duration of antifungal treatment, the use of secondary prophylaxis and duration, and disease relapses. The follow up of these patients should be better described. These information are very important. I suggest a dedicated section for this.

Essential revision:

I am not quite sure how an analysis of predictors of death would be interpreted as a pooled analysis of 2 groups of patients who had essentially different disease pathologies. Some variables were significantly different between the 2 groups, eg. CD4 counts, white blood cell counts, positive blood culture…I can understand if authors want to do this analysis for each group separately, although the numbers might be too small to reveal significant findings.
Minor revision:
The discussion should touch on the fact that even though only 35% of underlying
diseases were identified, 91% of these patients had had a previous opportunistic
infection, suggesting that the vast majority of these patients had some underlying
immune defects, yet to be identified. The majority of these previous OIs were
non-TB mycobacteria and salmonellosis, so it is likely that IF-gamma receptor
antibody plays a role.

Clarification:
Were data from any of these patients reported in the 2012 NEJM paper about
interferon gamma receptor antibody in Thailand and Taiwan? If so please
mention so.

**Level of interest:** An article of importance in its field

**Quality of written English:** Needs some language corrections before being
published

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

**Declaration of competing interests:**
I have no competing interests