Reviewer’s report

Title: Kinetics of mycolactone in human skin during antibiotic therapy for Mycobacterium ulcerans disease.

Version: 1 Date: 31 January 2014

Reviewer: Paul Converse

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This study evaluates the response to antibiotic therapy of Buruli ulcer patients in Ghana in terms of the concentration of the mycolactone toxin. Antibiotic therapy reduces the bacterial burden and there seems to be no difference between patients treated with rifampicin and streptomycin (RS) for 8 weeks and patients treated with RS for 2 weeks followed by 6 weeks of rifampicin and clarithromycin (RC). Whether this is also true for mycolactone is unstated in the paper but appears to be likely.

1. The authors should determine whether slow healers were more often on one regimen or the other.
2. In the Discussion, the authors might underline the practical value of knowing that mycolactone may be higher in the centre of pre-ulcerative lesions for future studies evaluating mycolactone as a diagnostic marker for infection as well as in monitoring the response to therapy.
3. Legend for Figure 3: Were the values used those obtained by mass spec or cytotoxicity?
4. In either case, there appear to be missing baseline values in comparison to figure 1.

Figure 3 graphs: For each category, there is one extreme outlier. The graphs would be more meaningful if the y-axis were presented on two segments as done in Figure 1. For each graph, it should also be possible to use solid symbols for patients receiving 8 weeks of RS and open symbols for those receiving 2RS+6RC. The symbols should also be larger.

The paper is generally well-written and presented but could be enhanced by attention to the following minor points:

Abstract:
Background, line 6: delete concentration
Methods, line 2-3: mycolactone concentration was
Conclusions, line 3: may be a useful
Methods:
Monitoring, line 4: twice weekly
Quantitative cytotoxicity, line 2: measures
Mass spec: define UFLC, UPLC acronyms
Use either rifampin or rifampicin throughout.

**Level of interest:** An article of outstanding merit and interest 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 declare that I have no competing interests.