Author's response to reviews

Title: Exploring the Association Between Morgellons Disease and Lyme Disease: Identification of Borrelia burgdorferi in Morgellons Disease Patients.

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Author's response to reviews: see over
December 26, 2014

Maria Merrie Jul Ladag
on behalf of Hayley Henderson, PhD
Senior Executive Editor
BioMed Central

Re: MS: 9014434614030845 - Exploring the Association Between Morgellons Disease and Lyme Disease: Identification of *Borrelia burgdorferi* in Morgellons Disease Patients.

Dear MJ,

Thank you for forwarding the favorable reviews of our manuscript. We have revised the manuscript along the lines suggested by the reviewers. A detailed response to the reviewer comments is attached. We have also reformatted the manuscript in the correct journal style and added email addresses for all authors on the Title Page, as requested.

We appreciate the reviewers’ helpful comments, and we hope that the article is now acceptable for publication in *BMC Dermatology*.

Sincerely,

Raphael Stricker, MD
Past President, ILADS
Reviewer 1

This is a very comprehensive paper that will become a major contribution towards the better understanding of Morgellons disease. I recommend acceptance and do not recommend any major or minor revisions.

Response: We appreciate the reviewer’s positive comment.

Discretionary Revisions:
There was limited discussion on the role of tick-borne co-infections. As noted in this paper "other tick-borne co-infections appear to play a role in this dermopathy." (480-481) It would be interesting to see more discussion on MD and other tick-borne co-infections in this or subsequent articles.

Response: We have added an additional comment in the Discussion section (lines 505-507) about the uncertain role of tickborne coinfections.

Abstract, I am aware there is a word limitation that may not allow these suggestions. line 40. Suggest revising to read-delusional or delusional parasitosis...

Response: We have included this language in the Abstract.

The clinical classification scheme (529-543) was quite interesting and it would have been useful to make a reference to this classification scheme in the abstract.

Response: We have mentioned this classification scheme in the Abstract, as suggested by the reviewer.

Reviewer 2

Discretionary Revisions - I would suggest that in the conclusions the authors restate the question "We undertook a histological, electron microscopic and DNA study of North American MD patients to investigate the presence of borrelial spirochetes systemically and in dermatological specimens." Then restate the rest of the conclusion section as written.

Response: We have restated the question in the Conclusions section (lines 585-586), as recommended by the reviewer.

Reviewer 3

This is a technically well-written article. However, clinical assessments are never mentioned in the article. Morgellons is a very debatable issue and evaluation from dermatologist, psychiatrist or psychodermatologist is necessary. In addition, Patient selection may be faulty.

Why are clinical evaluations lack?

Response: In the Results section (lines 283-285), we have emphasized that patients met the clinical criteria for Morgellons disease according to a referring healthcare provider. These clinical criteria are also consistent with previous reports of Morgellons disease, as described in the references provided. It is unlikely that a psychodermatological evaluation would influence the microscopic and molecular evaluation of these patients with clinically diagnosed Morgellons disease. We have also cited a recent clinical study from Australia showing that Morgellons disease occurs in 6% of Lyme disease patients on that continent (lines 543-544 and Reference 50).

How were patients selected?

Response: As described in the Methods section (lines 92-97), patients were selected in
chronological order if they met the clinical criteria for the study and could provide samples for microscopic and molecular testing.

How were cutaneous materials, which were evaluated in detail, selected?

what do you mean saying skin callus?

**Response:** In the Results section (lines 285-291), we have described the skin callus samples in more detail, as requested by the reviewer.

How were so much positive results of Borrelia spirochets found?

**Response:** In the Discussion section (lines 546-555), we have listed a number of factors that we believe contributed to the success of our detection methods for *Borrelia* spirochetes. We hope that our results will encourage the use of these methods in future studies of Morgellons disease.