Author's response to reviews

Title: Clinicopathology of corneal Intacs (intrastromal corneal rings): a case report

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Author's response to reviews:

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Professor Michael Kidd,
Editor-in-Chief, Journal of Medical Case Reports

Dear Prof. Kidd,

We thank you and the referees for the helpful review of our manuscript. The review has allowed us to incorporate the changes suggested by the referees and to improve our manuscript. We have endeavored to address all of the comments and suggestions:

Reviewer Dr. Djalilian:
1. On pathologic examination what did the crystalline deposits represent?
The crystalline deposits likely represent the combination of channel haze/acidophilic densification, edematous keratocytes and the infiltration of CD68+ macrophages near the Intacs. We have added in the last paragraph of the Discussion (page 5).

2. The details for measuring the mRNA levels of the two chemokines should either be included or referenced to a previous publication. Was this done by laser capture microdissection?
We have added a new reference (Ref. 5) described the detail of measuring the mRNA levels of the chemokines, which was done by microdissection and qRT-PCR. The methods have now been added in the Abstract and described in the second paragraph of the Case Presentation (last second sentence).

3. The authors may want to comment on the severe endothelial attenuation and whether it is consistent with advanced keratoconus or if they think it could be related to the Intacs.
The endothelial attenuation is consistent with advanced keratoconus. We have added the statement in the second paragraph of the Case Presentation (second sentence).

Reviewer Dr. Wang:

1. The method or assay for molecular analysis of IP10 should be specified. For example, was real time-PCR, ISH or SAGE used?
   We used real-time quantity RT-PCR to measure IP10 and CCL5. This information is now added (see above response #3 and Reference 5).

2. How was the sample sectioned into “fibrous tissue surrounding the Intacs” and “the central corneal stroma”?
   Figure 1C illustrates “fibrous tissue surrounding the Intacs” and Figure 1B illustrates central corneal stroma, we microdissected the cornea and collected two samples: the peripheral cornea (fibrous tissue surrounding the Intacs) and the central cornea.

3. Though it was stated that “the epithelial cells were flattened centrally and irregular or missing peripherally” in the text, the figures did not show such changes.
   The Reviewer is correct that the epithelial changes were not illustrated, because the Intacs does not contact corneal epithelia.

4. CD68+ cells are not only present in the inner aspect of Intacs, but also apical and lateral sides.
   That is right. Most CD68+ cells were found in the inner aspect of Intacs, we add “mainly” in the description of CD68 cells (second paragraph, page 4).

5. The reference to Fig2 should be placed accordingly in the text.
   Thank you for the comment. We have now placed Figure 2 in the text of “Pathology Findings”.

6. Minors: endothelial cells decreased in number, but the wording “attenuated” should be substituted; the blue arrows in Fig2 should be reverted;
   We add the words “and decreased” in the description of endothelial cells in the description. We have also reverted the arrows in Figure 2.

Thank you again for the opportunity of revision. We appreciate you to reconsider our manuscript to be accepted in your journal.

Sincerely Yours,

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