Reviewer's report

Title: Gentamicin supplemented polyvinylidenfluoride mesh materials enhance tissue integration due to a transcriptionally reduced MMP-2 protein expression

Version: 1 Date: 27 May 2011

Reviewer: Lisa Pierce

Reviewer's report:

Major Compulsory Revisions
None

Minor Essential Revisions
1. Methods-Histological assessment and immunohistochemical analysis, first paragraph: immunohistochemistry was done subject to the ABC method with DAB as a chromogen "...in accordance to the instructions of the manufacturer." Please list the manufacturer.

2. Methods-Histological assessment and immunohistochemical analysis, second paragraph: Please clarify how the image analysis of positively stained cells was performed using the Image-Pro software (for example, pixels containing brown color as a percentage of area, etc.). Was extracellular staining also included (as can be seen in Fig 4 especially panels B and D)? If extracellular staining was also included, then the figure(s) should be labeled on the Y-axis as percentage of positive staining (not just percentage of positively stained cells).

3. Tables 1, 2 and 3 should be removed from the manuscript because the figures nicely demonstrate this redundant data.

4. Figure 4 is not referenced in the text (Results) and should be.

5. The authors should better describe the limitations of their study using an animal model (& applicability to human patients) in the Discussion.

6. Abstract (Results) - please add in "between days 21 and 90" at the end of the first sentence after MMP-2 protein expression.

7. Abstract (Results, last sentence) - please add "at all 3 time points" after "...significant differences to the PVDF mesh were only detected for the 8 ug/mg group"

8. There are several, mostly minor language corrections and typographical errors in the paper. Below are listed a few of them:

1)Abstract - ratio not ration (Conclusions)
2)bilateral "to" not "of" (throughout manuscript)
3) Methods (MMP-2/LacZ transgenic mice model, first paragraph) - 1282/-1322 is missing a "-" in front of 1282. Also, why is this reported in reverse order in the Discussion as -1322/-1282? Please be consistent.

4) Results (MMP-2 promoter activity, second paragraph) - PVDF, not PVFD

5) Results (MMP-2 promoter activity, second paragraph) - This paragraph (first sentence) is difficult to understand as written, and it appears as though words were left out. Please clarify (I believe the authors are trying to state that there were no significant differences in staining at 21 days, but there was a significant reduction for all gentamicin-treated groups at 90 days.)

6) Results (MMP-2 promoter activity, second paragraph) - "a significant reduction", not "a significantly reduction"

7) Discussion, 3rd paragraph, last sentence - "Tough" should be "Though"

Discretionary Revisions
None

Level of interest: An article whose findings are important to those with closely related research interests

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.