Reviewer's report

Title: Human amniotic fluid stem cell injection therapy for urethral sphincter regeneration in an animal model

Version: 3 Date: 10 May 2012

Reviewer: Margot Damaser

Reviewer's report:

This revised manuscript has been greatly improved. In particular, the English usage has been dramatically improved, making the manuscript highly understandable. The manuscript covers an important and novel field, providing needed data to the field. There are a few items that need to be addressed by the authors prior to publication.

Major compulsory revisions

1. The new data on neurogenesis and neuromuscular junctions need to be included in the abstract.

2. On page 7, case #1 is referred to without be defined. It needs to be put in context and defined.

3. The authors need to provide the posthoc test used to identify individual group differences after the ANOVA statistical test.

4. I still find the Discussion section too short and disappointing in its significance, particularly considering the large volume of data and importance of the experiments. The following items should be included in greater depth the Discussion section.

   a. The cells labeled with MNPs@SiO2 (RITC) were detectable with optical imaging for up to 10 days in vivo after injection, but it is not clear if the signal was no longer detectable after 10 days but the cells remained viable or if the cells had migrated or apoptosed, diminishing the signal. The authors should comment on these possibilities in the Results and/or Discussion sections.

   b. Increased alpha-bungarotoxin staining in the Cell (-) group suggests the new muscle is better innervated in the Cell (-) group than in the Cell (+) group. This nonintuitive result should be commented on in the Discussion section and a mechanism for it should be proposed, with reference citations to the literature to support the author’s ideas and opinions.

   c. The Discussion of limitations should be expanded to a full paragraph with proposals regarding methods to avoid the limitations or explanations of why the limitations exist in the research.

   d. As requested in the initial revision, the authors still need to provide a discussion of acute vs. chronic stress incontinence models in the context of this
work, in the Discussion section. The authors could speculate about how this work could be used clinically for SUI, which is a chronic condition that most likely does not involve nerve transection.

5. Statistical significance between groups should be indicated in Figures 2 & 7, as they are in Figure 5.

6. In the legend to Figure 6, A & B appear to be reversed.

7. While the English language usage is greatly improved, it is still not quite good enough to provide sufficient clarity to readers. There are occasional errors in English that can change the meaning of the text. The text should be re-evaluated carefully by a native English speaker in its final version.

**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 I have no competing interests