

Peer Review File

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Reviewer A

Comment 1: I would move the information in the last PRP paragraph to earlier stating the platelet level, composition and proprietary preparation issues make it challenging to compare patients and studies.

Reply 1: Done (lines 199-205).

Comment 2: I would define MSCs as bone marrow aspirate is technically not MSC

Reply 2: We have now distinguished the use of MSCs and the use of BMAC (as a minimal manipulation method) to better clarify their differences (lines 221-241).

Reviewer B

This is the review paper that described the meniscus treatment with biologic augmentation techniques. The enhancement of meniscus healing is one of the critical topics of orthopaedic surgery, and the theme of this review article attracts much attention. However, some points should be added for publication.

Comment 1: The key words included “lateral meniscus”, however, this article was not focused on the only lateral meniscus. Just “meniscus” may be better.

Reply 1: Done (line 28).

Comment 2: The authors stated some techniques such as mechanical stimulation, synovial flaps, fibrin clot, PRP, and MSCs. These methods have much potential of biologic augmentation. For the better understanding of the readers, it's better to add a table that summarizes the preclinical studies and clinical procedures.

Reply 2: Done (lines 91).

Comment 3: The authors did not state about cytokines that has a potential to enhance the healing of the meniscus, such as VEGF, CTGF, and ChM-1, etc. It's better to add some information of cytokines.

Reply 3: Done (lines 82-87).

Comment 4: In the recent years, various review papers were published regarding the regenerative medicine for meniscus as listed below. Therefore, it is better to claim the strong point of this review paper.

Biomechanical Stimulus Based Strategies for Meniscus Tissue Engineering and Regeneration. Chen M, et al. Tissue Eng Part B Rev. 2018

Current Concepts in Meniscus Tissue Engineering and Repair. Bilgen B, et al. Adv Healthc Mater. 2018

Native tissue-based strategies for meniscus repair and regeneration. Zhang Z, et al.

Cell Tissue Res. 2018

□ Cell-Based Meniscus Repair and Regeneration: At the Brink of Clinical Translation?: A Systematic Review of Preclinical Studies. Korpershoek JV, et al. Orthop J Sports Med. 2017

□ Biological Therapies in Regenerative Sports Medicine. Andia I, et al. Sports Med. 2017

□ Cell-Based Strategies for Meniscus Tissue Engineering. Niu W, et al. Stem Cells Int. 2016

□ Advances in combining gene therapy with cell and tissue engineering-based approaches to enhance healing of the meniscus. Cucchiari M, et al. Osteoarthritis Cartilage. 2016

□ Biological augmentation and tissue engineering approaches in meniscus surgery. Moran CJ, et al. Arthroscopy. 2015

Reply 4: Done (lines 255-259).

Comment 5: Figure 1. It showed meniscal trephination technique that provided multiple holes through the outer aspect of the meniscus rim. Please indicate holes using arrows because it is difficult to find holes.

Reply 5: We modified Figure 1 shifting the multiple holes on the outer aspect of the meniscus rim and enlarging the holes to make them more easily visible to the readers.

Comment 6: Figure 2. It showed meniscal abrasion of adjacent synovium. Bleeding were observed along the inner side of the longitudinal tear of the meniscus. Is that right? Synovium is located peripheral margin of the meniscus.

Reply 6: We modified Figure 2 shifting the meniscal abrasion on the outer aspect of the meniscus as requested.

Comment 7: Figure 3. Please indicate synovial flap and meniscus lesion using arrows or arrowheads.

Reply 7: We increased the size of the synovial flap margin to make the image clearer. We think that the insertion of arrows can make the image less clear.