Author's response to reviews

Title: In Vivo Experimental intervertebral disc Degeneration Induced by Bleomycin in the Rhesus Monkey

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Dear Editor.

We would like to submit the enclosed manuscript entitled “In Vivo Experimental intervertebral disc Degeneration Induced by Bleomycin in the Rhesus Monkey”, which we wish to be considered for publication in BMC Musculoskeletal Disorders.

Recently, one of the hotspots of research efforts was related to management of early and mild stages of disc degeneration. To our known, although several excellent animal models of degenerative disc disease have been developed, a functional animal model that mimics ischemic and slowly progressive disc degeneration of humans does not exist. It is demonstrated that disorders that affect the blood supply to the endplate are significantly associated with disc degeneration and back pain. In this study, we injected bleomycin, which have been used as sclerosing agents and could produce a “devascular effect”, into the subchondral bone adjacent to the IVDs of rhesus monkeys to block the nutrition exchange of the IVD, and used T1ρ magnetic resonance imaging (MRI) technique, combined with histological and genetic studies, to evaluate the degenerative changes of IVD. The results showed that injection of bleomycin into the subchondral bone adjacent to the lumbar IVDs of rhesus monkeys induced slowly progressive and mild disc degeneration, which mimiced the onset of human disc degeneration, which was confirmed by radiological and histological analysis et al. The degeneration model is suitable for disc degeneration and regeneration studies.

We promise that all authors were fully involved in the study and preparation of the manuscript and that the material within has not been and will not be submitted for
publication elsewhere.

All the authors declare that there are no conflicts of interest.

Lastly, we hope this work has attained the required impact for publication.

Sincerely yours,

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