Reviewer’s report

Title: Effects of pamidronate disodium on the loss of osteoarthritic subchondral bone and the expressions of cartilaginous and subchondral OPG and RANKL in rabbits

Version: 3 Date: 5 August 2014

Reviewer: yin-gang zhang

Reviewer’s report:

Osteoarthritis is a common disease in the elderly, at the early stage, main treatment are physical therapy and medication, at the lately, to be joint replacement surgery et al.. Authors adopted an animal model, to use Micro-CT, Safranin O and rapid green staining, immunohistochemistry, and Western blotting techniques, to investigate the effects of pamidronate disodium (PAM) on bone loss and the expression of OPG and RANKL in anterior cruciate ligament transection (ACLT)-induced osteoarthritis. Their conclusion is that PAM can significantly inhibit and even reverse osteoarthritic subchondral bone loss, thus alleviating the process of cartilaginous degeneration. And The mechanisms might be associated with its upregulation of OPG expression and inhibition of RANKL expression, thus increasing their ratio.

Major Compulsory Revisions
1 Background is sort of lengthy, to need to simply. Osteoarthritis of the mechanism would be briefly summarized, and propose the theory of PAM treatment of osteoarthritis.

2 in Materials and methods, grouping and sampling time, animals numbers were confused, please use the work flow chart.

3 Figure 3, ACLT 4W, comparison with the other figures, is clearly not the same multiple. Figure 7, RANKL immunohistochemistry, PAM-S and PAM-L group showed thinner cartilage, why?

Level of interest: An article of limited interest

Quality of written English: Needs some language corrections before being published

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

'I declare that I have no competing interests'