Reply to Letter to the Editor

Is There Really No Benefit of Vertebroplasty for Osteoporotic Vertebral Fractures? A Meta-analysis

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We appreciate the interest in our meta-analysis by the American Academy of Orthopaedic Surgeons (AAOS). Some of the points in the letter addressed limitations of our meta-analysis [7]. We included four trials which were not included in the AAOS guideline 2010 [1, 4, 6, 8], of which two were randomized controlled trials and the other two were prospective nonrandomized controlled trials. In addition to two Level I trials, there were three Level II trials in the AAOS guideline that had the same quality as these four trials. Dr. Jevsevar and his colleagues commented in their letter that “A study is not the best available evidence if there are at least two studies of higher quality that measure the same outcomes”, a point with which we concur. However, these two sham-control trials [3, 5] had some limitations: (1) Although both trials questioned the effect of PVP, there was still a trend toward a better outcome with PVP. (2) There was a large proportion of patients declining to enroll and high crossover rate raising the question of whether they had enough subjects. (3) These two trials included acute and chronic fractures; is there no difference between acute and chronic fractures? Our analysis suggested the difference might influence the results. Further, our meta-analysis added other outcomes. For example, PVP did not increase the risk of recurrent fractures and some inclusion criteria might influence the result (eg, bone edema of vertebral fracture observed on MR images).

Our review attempted to include all the available prospective evidence and was comprehensive. The AAOS guideline was based on more stringent selection criteria but eliminated some evidence. In addition, one new RCT has been published comparing PVP and conservative therapy [2] that concluded PVP achieved faster pain relief. We believe the AAOS guideline on treatment of symptomatic osteoporotic spinal compression fractures will face more challenges and we look forward to the findings of further investigations.

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