

## Reply to: Percutaneous Vertebral Augmentation for the Treatment of Symptomatic Schmorl's Nodes: Our Viewpoint and Experience

### **To THE EDITOR:**

We thank Sun et al for their interest in our study on percutaneous vertebroplasty (PVP) in painful Schmorl's nodes (SNs) (1). In response to their concerns and opinions, we would like to clarify the following points:

There is obvious oedematous rim around SNs in T2 weighted Magnetic Resonance Imaging (MRI) presented in our article, which is regarded as the evidence diagnosing symptomatic SNs (2). Moreover, there is still no evidence to identify that the more significant oedematous rim, the higher degree of pain caused by SNs. So, it is possible that the SNs are symptomatic even the oedematous rim in MRI is not so significant.

In our article, we stated that "The symptoms associated with some SNs may be due to inflammatory changes around the herniated nucleus pulposus of the diseased vertebra" (1). But we didn't describe the specific mechanism about it. Micromovements, inflammation and pressure on nociceptors within the oedematous area probably induce back pain, as Sun et al concluded (3,4).

Sun et al reported their study about the effectiveness and safety of percutaneous kyphoplasty (PKP) to symptomatic SNs. Their thoughtful research identified that PKP could be regarded as an effective and safe approach to symptomatic SNs refractory to conservative therapy. They propose the use of PKP over PVP as a therapeutic strategy in patients with symptomatic SNs with the reason that PKP can reduce the probability of cement leakage when comparing with PVP (5). However, there is still no evidence showing that PKP is superior to PVP in treating vertebral compression fractures (VCFs) (6). As Sun et al said, there is clear evidence that cement extravasation is less frequent for PKP than for PVP due to lower cement injection pressure following balloon cavity creation, which is the most important advantage of PKP over PVP (7,8). Also, PKP resulted in greater kyphosis correction (9). However, several studies demonstrated that there is no difference between PKP and PVP when regarding the pain reduction (7,10-12). A large retrospective review comparing conservative therapy, PVP and PKP using Medicare data, found that both PVP

and PKP improved survival (13). Considering the lower costs, some researchers preferred PVP for the treatment of VCFs (14). So, further consideration must be given to identify which procedure is better to VCFs.

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