TO THE EDITOR:


Dr. Tsujio et al. reported that diffuse low intensity on T2-weighted magnetic resonance (MR) images of fresh vertebral fractures can predict a high risk of nonunion. We have a question about this finding.

To make a correct diagnosis of spinal disease, we need to use the information from several pulse sequences (T1-weighted image, T2-weighted image, short-tau inversion recovery sequence, and contrast-enhanced T1-weighted image) of MR to make the diagnosis; sometimes we also need the information from plain radiographs. Only T2-weighted image alone cannot make the diagnosis.

Low-intensity signal in T2-weighted image represents fibrosis, air, or osteonecrosis. Sung et al. classified the signal intensity of vertebral compression fracture on MR imaging into 4 types. Type I (fracture age about 0–3 months) was characterized by hypointensity on T1-weighted image, and hyperintensity on T2-weighted image. Type II was focally hypointense in the compressed vertebral body on all pulse sequences. The fracture age at type II was about 3 to 5 months. The MR imaging of acute vertebral fracture should be hyperintensity on T2-weighted image. The image of diffuse low intensity in Figure 3 should be the type II pattern, and the fracture age is about 3 to 5 months. The low intensity in T2-weighted image is a late result of compression fracture, and should not be used as a predictor in fresh fracture.

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References

