Clinical Interventions in Aging

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LETTER

Could Teriparatide Replace Percutaneous Vertebral Augmentation for Patients with Osteoporotic Vertebral Compression Fracture to Some Extent? [Letter]

This article was published in the following Dove Press journal:
Clinical Interventions in Aging

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Dear editor

We read with great interest the article by Kong et al.[1] In their study, the authors found that for patients with osteoporotic vertebral compression fracture (OVCF), treatment with percutaneous kyphoplasty (PKP) and teriparatide showed a lower risk of new vertebral compression fracture (NVCF) and better clinical outcomes than with PKP and basic treatment (calcium and vitamin D). We wish to express our opinion on this topic.

Osteoporosis is becoming a major public health concern and the most common form of osteoporotic fracture is OVCF.[2] Treatment methods include conservative management, percutaneous vertebroplasty (PVP), PKP, and surgical stabilization. When there is an inadequate response of OVCF to conservative therapy of over 3 weeks duration, percutaneous vertebral augmentation can be considered.[3] However, the high incidence of NVCF after surgery should be noted. In the study, the authors prescribed a 12-month course of teriparatide for OVCF patients after surgery and confirmed its effectiveness in decreasing the incidence of NVCF, improved outcomes and enhanced bone mineral density (BMD). Given the complications of percutaneous vertebral augmentation and the efficacy of teriparatide in OVCF, we hypothesize that teriparatide could replace percutaneous vertebral augmentation in OVCF in appropriate patients.

Teriparatide is the only bone anabolic drug approved for postmenopausal women and men with osteoporosis.[4] In a study of the drug in patients with repeated and multiple new-onset OVCF, the researchers found significantly improved short- and long-term efficacy, pain scores (visual analogue scale) were significantly reduced over 12 months of follow-up, and no NVCF occurred; therefore, no percutaneous vertebral augmentation was required.[5] Furthermore, we found that for patients with neurological damage following new unstable OVCF, but who had surgical contraindications, teriparatide was better than alendronate in improving BMD, bone turnover parameters and spinal cord injury.[6] Likewise, in a recent study, teriparatide showed better efficacy than did bisphosphonate and non-anti-osteoporosis methods for the management of OVCF patients, based on a numerical rating scale, vertebral height loss, and the incidence of intravertebral vacuum cleft.[7]

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DovePress
http://doi.org/10.2147/CIA.S234553

A report from the task force convened by the American Society for Bone and Mineral Research indicated that the routine use of vertebral augmentation for pain relief after OVCF is not supported by current evidence. Meanwhile, anti-osteoporosis medications were recommended, because of the available evidence from several randomized controlled trials, for their role in reducing the risk of NVCF.[8] These suggestions are in accordance with our opinions. Based on current studies, teriparatide is a promising treatment for patients with OVCF compared with other anti-osteoporosis drugs. If it is prescribed for patients who are being considered for percutaneous vertebral augmentation, NVCF, and repeated surgery may be avoided. Considering the cost of teriparatide, we advise that at least treatment with 1-month of teriparatide should be attempted when other conservative methods have failed. If significant improvement occurs, the teriparatide treatment should be continued for 12 months. Further large-population-based randomized controlled trials are needed to evaluate the efficacy of teriparatide in the treatment of OVCF compared with percutaneous vertebral augmentation.

Disclosure

The authors report no conflicts of interest in this communication

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