

Letters to the Editor

Vertebral Augmentation and Radiation Therapy: Which Should be Given First to Patients with Malignant Vertebral Compression Fractures?

TO THE EDITOR:

It is with great interest that we read the article by Hirsch et al, "The use of vertebral augmentation and external beam radiation therapy in the multimodal management of malignant vertebral compression fractures," published in the 2011 September/October issue of *Pain Physician* (1).

This is a thoughtful and well-designed retrospective article which suggested palliation to patients with cancer who have malignant vertebral compression fractures (MCFs) best achieved using a multimodal approach of vertebral augmentation (VA) and radiation therapy. The article also corroborated that the treatment sequence of VA and radiation therapy had the same pain improvement outcomes, and suggested using radiation therapy prior to VA. The viewpoint of the author is right, but we have some disagreement on the treatment sequence of VA and radiation therapy mentioned in the article.

As we know, kyphoplasty and radiation therapy are complementary procedures to patients with MCFs: ideally, kyphoplasty immediately stabilizes the spine and relieves pain within hours and, thereafter, the tumor can be further treated with radiation therapy (2). However, we suggest performing VA prior to radiation therapy. An important reason is that radiation therapy can lead to hardening of the bone, making the percutaneous VA procedures much more difficult to perform (2,3). The article suggested using radiation therapy prior to VA to shrink the tumor, for tumor shrinkage prior to VA can reduce the risk of tumor dissemination during pressurized cement injection. In our opinion, during the pressurized cement injection process, VA

has little risk of tumor dissemination, nevertheless, the space occupying effect will inhibit tumor cell growth. More importantly, vascular structures, which are indispensable for underlying tumor cells to growth, are destroyed by the compressive effects on small nerves, and by ischemic phenomena subsequent to polymethylmethacrylate impregnation into small vessels (4).

In summary, to patients with MCFs, we also advise using a multimodal approach of VA and radiation therapy, however, VA should be given first.

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