

# Palliative Ablation and Kyphoplasty for a Suspected Metastatic Fracture

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## Purpose

We describe the successful radiofrequency ablation (RFA) and subsequent balloon kyphoplasty (BKP) of a painful lytic lesion of the L4 vertebral body in a patient with metastatic renal cell carcinoma (RCC).

## Case

A 61-year-old female with a 2-year history of stage IV RCC presented with severe lower back pain attributable to a metastatic lesion of L4 resulting in a vertebral compression fracture. The patient elected for ablation and kyphoplasty as opposed to stereotactic radiosurgery.

A biopsy of the target lesion was obtained by inserting a spinal needle through the right pedicle of L4. An osteotomy from a Merit StabiliT First Fracture kit was used to create bilateral transpedicular tracts into the lesion. The ablation probe was advanced through the right and left tracts and percutaneous ablation was performed. Next, the Merit steerable balloon catheter was placed into the vertebral body and inflated under fluoroscopic guidance (Fig 1). A delivery needle was advanced, and 5 cc of cement was infused at the site of the suspected compression fracture (Fig 2).

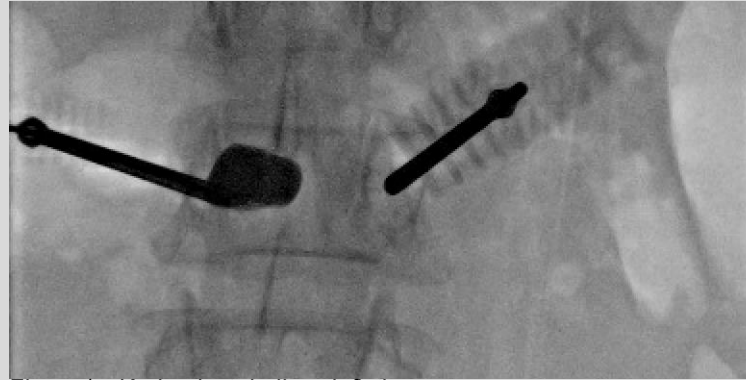


Figure 1 – Kyphoplasty balloon inflation



Figure 2 – Cement infusion

Following technically successful ablation and kyphoplasty of the L4 lesion, the patient experienced relief without recurrence of pain. The biopsy specimen obtained prior to the ablation was negative for malignancy which may be secondary to inadequate sampling.

## Discussion

- ❑ Metastatic bone lesions may result in severe pain, hypercalcemia, spinal cord or nerve root compression, and fracture.
- ❑ Metastatic bone lesions most frequently involve the lumbar spine.<sup>1</sup>
- ❑ Stereotactic radiosurgery (SRS), first used in the 1950s, provides excellent pain relief but increases vertebral fracture risk.<sup>2</sup>
- ❑ RFA is valuable palliative treatment option for painful osteolytic lesions that avoids the fracture risk associated with SRS.
- ❑ BKP may be utilized in metastatic spinal compression fractures to relieve pain and restore vertebral body height and stability.

## References

- [1] Coleman RE. Clinical features of metastatic bone disease and risk of skeletal morbidity. *Clin Cancer Res*. 2006;12(20 pt 2):6243S–6249S.
- [2] Sahgal A, Whyne CM, Ma L, Larson DA, Fehlings MG. Vertebral compression fracture after stereotactic body radiotherapy for spinal metastases. *Lancet Oncol*. 2013 Jul;14(8):e310-20. doi: 10.1016/S1470-2045(13)70101-3. PMID: 23816297.