

## Conus Medullaris Syndrome Secondary to an T12 Osteoporotic Vertebral Fracture

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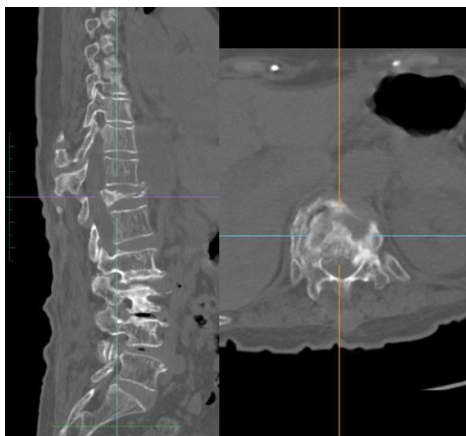
### INTRODUCTION:

Osteoporosis is a major cause of spinal compression fractures in the elderly. Despite an extremely high incidence of this spinal fragility fracture in such people, immediate neurological compromise after trauma is uncommon.

Conus Medullaris Syndrome (CMS) results from compression of the conus medullaris (CM), typically occurring at the T12–L2 level. This syndrome represents a critical medical emergency and is characterized by its substantial impact on bowel and bladder continence, as well as weakness and paralysis of the lower limbs.

### REPORT:

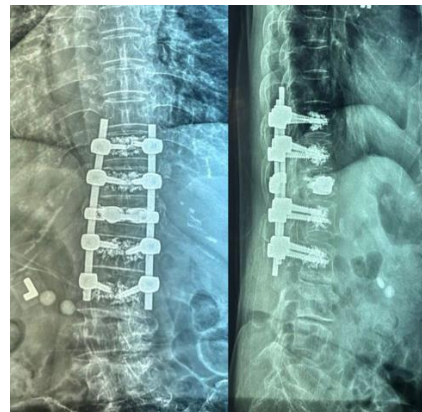
We present the case of a 71-year-old woman who was admitted to our hospital with complaints of severe back pain and bilateral lower limb progressive weakness for 2 weeks. Upon initial assessment, the patient exhibited signs consistent with CES, including urinary and bowel incontinence, saddle anesthesia, and a total loss of motor function over the bilateral L4, L5, and S1 myotomes (MRC grade 0/5).



**Figure 1:** CT Sagittal and Axial of T12 vertebra

Imaging studies, including X-ray and CT scan (Figure 1) of the thoracolumbar region, revealed a compression fracture of the T12 vertebral body with retropulsion of the fractured fragment into

the spinal canal. MRI demonstrated a severe T12 osteoporotic fracture with compression of the conus medullaris, accompanied by cord edema changes. Patient underwent T10-L2 posterior instrumentation, T12 posterior decompression, and T12 vertebral body stenting. (Figure 2)



**Figure 2:** Post-operative lumbosacral X-rays

### Discussion:

The rarity of neurological compromise in osteoporotic compression fractures underscores the importance of considering alternative diagnoses when patients present with atypical symptoms. Due to the osteoporotic nature of the bone, it was imperative to employ cement-augmented pedicle screws to enhance their purchase and pull-out strength. To address anterior column instability and vertebral body augmentation via stentoplasty was performed.

By stabilizing the posterior elements and augmenting the anterior column, this surgical approach aims to alleviate neural compression, restore spinal alignment, and mitigate the risk of recurrent fracture.

### REFERENCES:

Baba, H., Maezawa, Y., Kamitani, K., Furusawa, N., Imura, S., & Tomita, K. (1995). Osteoporotic vertebral collapse with late neurological complications.