

# A rare encounter of vertebral brown tumour causing cord compression in dialysis patient

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## ABSTRACT

**Introduction:** Osteitis Cystica Fibrosa, commonly known as brown tumour, are benign lytic bone lesions. These tumour represent classic skeletal manifestations of primary or, more rarely, secondary hyperparathyroidism. While they may appear in any bone, they are frequently found in facial bones, jaw bones, sternum, pelvis, ribs, and femur. However, brown tumour involving the spine are very rare. We report a rare encounter of a vertebral brown tumour causing cord compression in a patient with underlying end-stage renal failure. **Case Description:** A 34-years-old woman, with end stage renal failure on haemodialysis for 7 years, presented with progressive lower extremities weakness for one-week duration. The weakness gradually progressed, eventually rendering her immobile. No prior trauma or systemic infection were reported. Physical examination revealed bilateral weakness from L2 onward. Significant blood tests showed Alkaline Phosphatase value was 923 and elevated Parathyroid Hormone (PTH) with value of 335.73 pmol/L. MRI revealed an expansile soft tissue mass involving bilateral pedicles, laminae and transverse process of T9 vertebrae body. Additionally, it affected bilateral superior articulating process and spinous processes, causing stenosis and obliteration of exit foramina. Patient underwent decompressive spine surgery followed by posterior spinal instrumentation and fusion; excising a brownish, friable extradural tumour. Postoperatively, her neurological impairment significantly improved, allowing independent ambulation. The histopathological analysis confirmed a brown tumour, prompting a scheduled total parathyroidectomy to address secondary hyperparathyroidism. **Discussion:** Brown tumours are focal bone lesions caused by increased osteoclastic activity and fibroblastic proliferation commonly found in hyperparathyroidism. Their characteristic brown colour arises from vascularity, haemorrhage, and hemosiderin deposition. The treatment approach for brown tumour is multidisciplinary and typically involves tumour resection, spine stabilization, and aggressive management of hyperparathyroidism.