Vertebral Brown Tumour Causing Cord Compression – A Rare Encounter –

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INTRODUCTION:

Osteitis Cystica Fibrosa, commonly known as brown tumors, are benign lytic bone lesions. These tumors 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 tumors involving the spine are very rare. We report a rare encounter of a vertebral brown tumor causing cord compression in a patient with underlying end-stage renal failure.

REPORT:

A 34 years old woman, a known case of end stage renal failure secondary to Nephrotic Syndrome, has been on hemodialysis for over 7 years. She presented with progressive weakness and numbness in her lower extremities for one-week duration. The weakness gradually progressed, eventually rendering her immobile. No prior trauma or systemic infection were reported. Blood tests were unremarkable, except for Alkaline Phosphatase value was 923 and elevated Parathyroid Hormone (PTH) with value of 335.73 pmol/L.

MRI revealed an expansile soft tissue mass measuring 1.6cm x 5.8cm x 4.8cm involving bilateral pedicles, laminae and transverse process of T9 vertebrae body. Additionally, it affected bilateral superior articulating process and spinous processes, leading to stenosis at this level. Bilateral T9/T10 exit foramina were also obliterated.

Patient underwent decompressive spine surgery followed by posterior spinal instrumentation and fusion. Intraoperatively, a brownish, friable extradural tumor was excised piecemeal and sent for biopsy. Posterior instrumentation T7 to T11, decompression of T9 and fusion were performed.

Postoperatively, her neurological impairment significantly improved, allowing her to ambulate with a walking aid and subsequently walk independently. The histopathological report was consistent with a brown tumor. She is currently scheduled for a total parathyroidectomy by the surgical team to address her secondary hyperparathyroidism.".

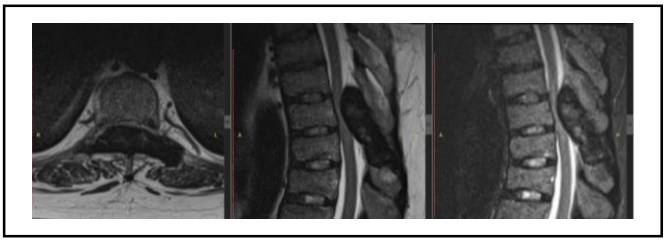

Fig 1: MRI - Expansile soft tissue mass causing severe spinal canal stenosis.

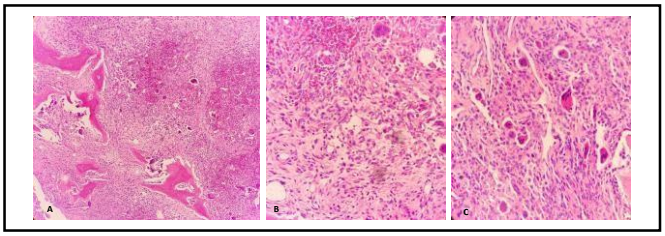

Fig 2: HPE - Scattered multinucleated giant cells with fibrous stroma composed of spindle to oval shaped mononuclear cells. Hemosiderin deposition.

CONCLUSION:

Brown tumours are focal bone lesions caused by increased osteoclastic activity and fibroblastic proliferation encountered in hyperparathyroidism. The vascularity, haemorrhage, and haemosiderin deposition give rise to the characteristic colour. The key points of treatment include tumor resection, spine stabilization, and aggressive management of hyperparathyroidism.

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