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CASE REPORT

AN EXCEPTIONAL CASE REPORT ON SPINAL HEMANGIOPERICYTOMA IN A YOUNG MALE PATIENT

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ABSTRACT

A rare incidence of primary intraspinal meningeal hemangiopericytoma (HPC) is described in this study. A 27-year-old man with low back pain extending to bilateral lower limbs had an MRI that indicated Tuberculosis of the Vertebral Body at L5 level, which was histopathologically diagnosed as HPC. The abscess was removed, and the patient's spine was stabilised. Complete surgical excision and follow-up radiotherapy appear to be the treatment of choice, regardless of the subtype of spinal HPC.

KEYWORDS: Hemangiopericytoma, Spine, Extradural tumor, Total resection.

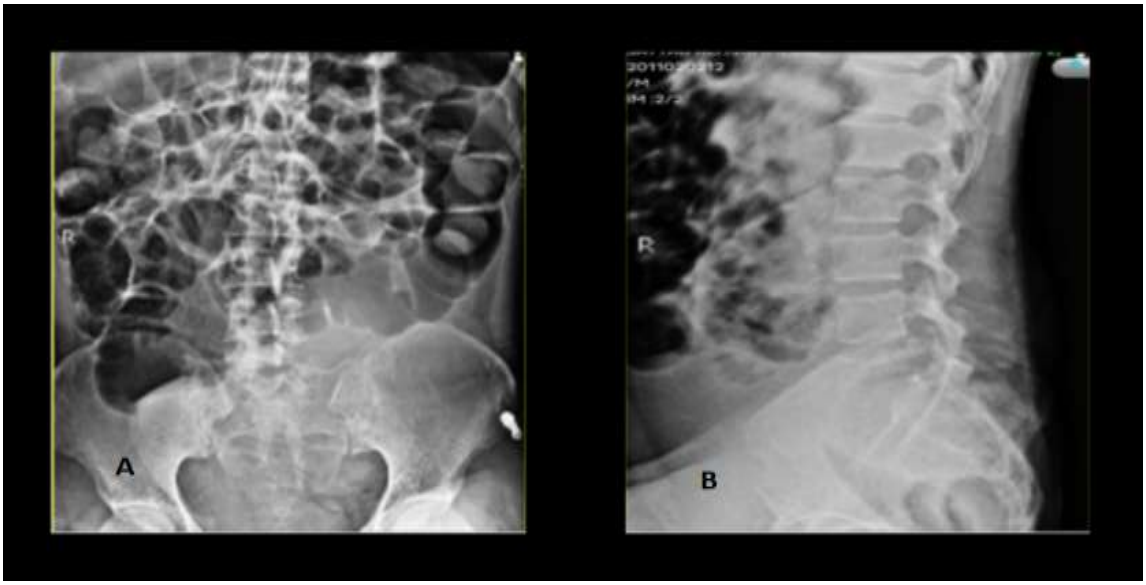
INTRODUCTION

The term "hemangiopericytoma" is used to describe soft tissue sarcoma sharing certain morphological characteristics at low-power examination, with moderate to high cellularity, with branching jagged vessel having antler like appearance called 'staghorn' vessels (Guthrie et al., 1989). HPC is a rare tumour that originates from pericapillary cells or pericytes surrounding the blood vessels. It is a painless mass often without any associated symptoms. With intradural or extramedullary tumours, they show apparent malignant characteristics(Thomas et al., 1981). Meningeal HPCs (M-HPCs) vary from meningiomas in terms of light microscopic, structural, and immunological characteristics. They have a higher proclivity for recurrence locally and as an extracranial metastasis than benign meningiomas, and their clinical pattern is more progressive. Intracranial M-HPCs are far more common than spinal ones. Despite the rarity in the vertebral column, its background, clinical presentation, and therapy are all still up for debate (Iwaki et al., 1988)

PATIENT INFORMATION

A 27-year-old man presented to the Orthopaedic outpatient department with a 2-year history of low back discomfort radiating to bilateral lower limbs (left > right). Pain was subtle in start, progressively progressive, dull in nature, with diurnal variance rising at nighttime, increased by activity, and relieved by medication and rest. The patient had no history of any fall and trauma. Patient gave history of tuberculosis 2 years back for which he started taking antituberculosis therapy for 1 year . Further that patient came to AVBRH Outpatient department in 2019 for which he was admitted for the same , at that time antitubuerculosis treatment was stopped and he was diagnosed as ?Potts spine for which MRI was done and it was suggestive of evidence of L5 vertebrae body destruction with a large peripheral lesion extending through anterior vertebral cortex into left lower lumbar para verterbral , pre vertebral region most likely suggestive of tuberculosis abscess. Patient was advised FNAC/BIOPSY correlation to rule out rare possibility of neoplasm, but patient's economic condition was not affording hence patient took discharge on request and was treated with conservative managment thenafter. He had muscle power of IV/V in his both lower limbs. He was

put on follow up but patient was not compliant. Patient came for follow in November 2020 with complains of difficulty in walking since 2 months, symptoms were worsened. Patient's muscle power degraded and was unable to walk. Patient at the time of admission also complained of inablility to extend left knee, knee ROM was 30 degree . Patient was admitted as per hospital protocol, patient was admitted under isolation ward where RTPCR was sent which came negative and was shifted to ortho ward thr next day. X ray Lumbar spine Anteroposterior and Lateral view was done which was suggestive of Destruction of L5 verterbae **(Fig.1**



A: Anterior B: Lateral View

FIGURE 1- X-Ray Lumbar Spine

Contrast enhanced MRI was done on 05/11/2020, which suggested erosive degeneration of L4,L5,S1 vertebral body as well as ala of sacrum.Large bilateral Psoas abscess including the left illiacus, paraspinal muscle, and epidural space, indicating TB SPINE **(Fig. 2)**

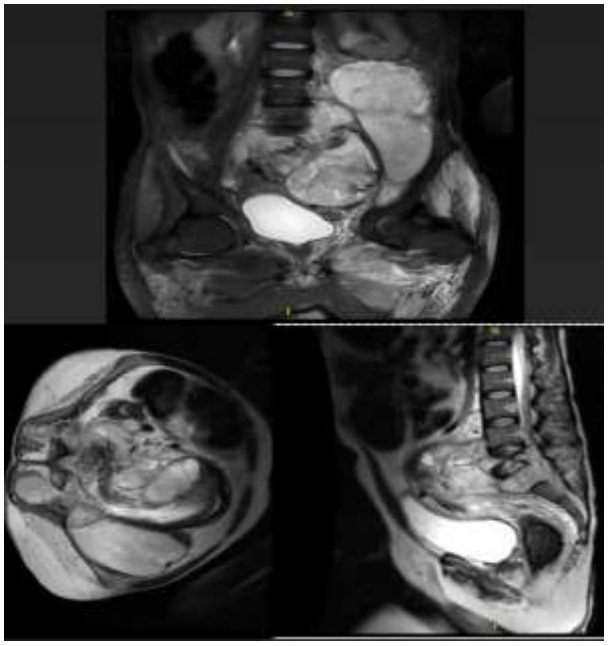


FIGURE 2- Contrast Enhanced MRI of Lumbar Spine

The patient was transferred to the Ortho Male Ward, where all regular investigations were performed. The patient was scheduled to undergo general anaesthesia for abscess removal and spinal fixation. After a thorough preoperative evaluation, the patient was scheduled for surgery if physically fit. The patient was transferred to the operating room, and the white tissue was removed from side pockets around the lumbar spine via a posterior midline incision over the lumbar area.Only right side spinal fixation was Since there was no acquisition of a screw on the left side at the S1 level, it wasn't placed there. The excised tissue was sent for culture sensitvity ,cytology examination and the procedure was uneventful. Post operative X-ray Lumbar Spine showed Implants in situ **(fig 3)**

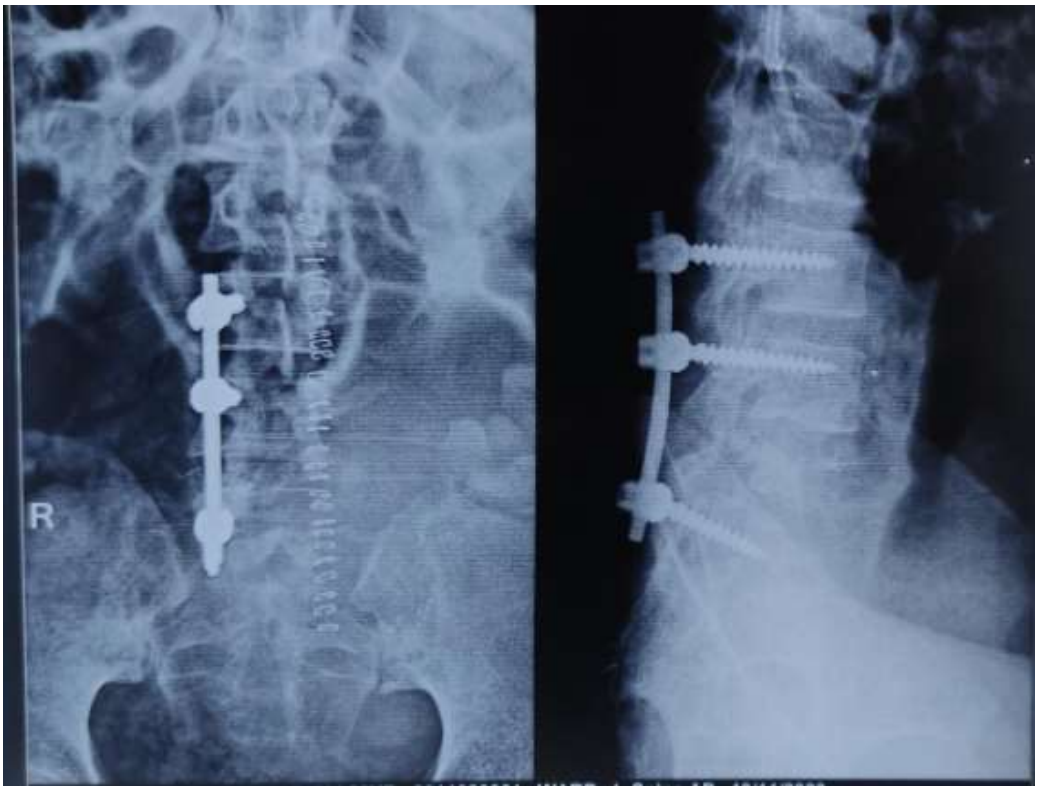


FIGURE 3- Post-Operative Day 2 X-Ray Lumbar Spine AP and Lateral View

Intraopertively , casesous material was not there and whitish coloured tissue was incised and sample was sent for cytology The report came suggestive of haemopericytoma which is a soft tissue highly aggressive sarcoma **(Fig 4)**

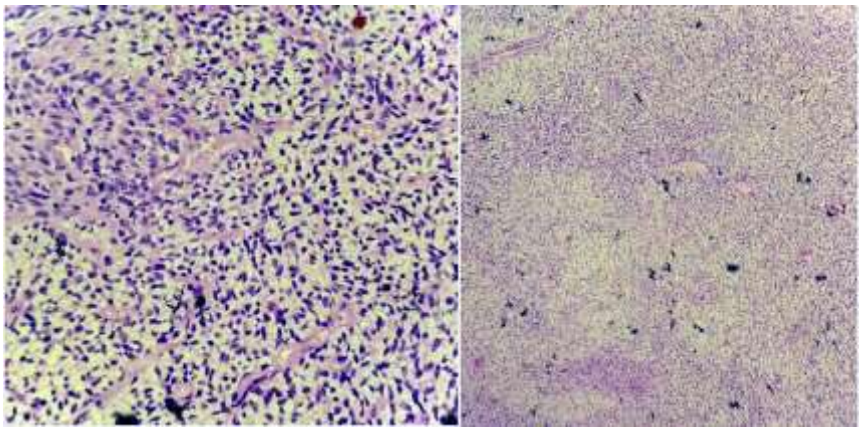


FIGURE 4- The Section Suggestive of Cells with Moderated Amount of Cytoplasm with Oval to Spindle Shaped Nuclei, Also Numerous Vessels Surrounded By Pericytes are seen.

DISCUSSION

HPC was formerly thought to be a separate kind of meningioma because of its clinical and radiological similarities, as well as its surgical therapy. But it develops from pericytes, which are modified smooth muscle cells found around reticular sheath capillaries and postcapillary venules. According to the literature, around 80 instances

of spinal HPC have been described, with the majority of them presenting as intradural – extramedullary tumours. Certain literature indicates that some pericytes are derived from several sources (Folpe et al., 1999) Increased cellularity, significant mitosis, necrosis, and bleeding are all malignant features of HPC. According to the research, 94 central nervous systemic HPC cases had a 60% localized risk of relapse and a 23% probability of metastasis. Radiotherapy and chemotherapy given after surgery help patients live longer (Mena et al., 1991)

In 9 case reports of extradural hemangiopericytomas, epidural space invasion was seen. There was dural adhesion in seven of these instances. The rest of the lesions appeared to be bone-related. This shows that there are two sorts of extradural tumours: those that develop from the dura and grow into the epidural space, and those that arise from the bone (Cole and Schmidt, 2009). Except for our instance, none of the intradural hemangiopericytomas exhibited a pain component at the time of presentation (Ciappetta et al., 1985). The patients had low motor strength and were experiencing paresthesia. The adhesion of the lesion to a nerve root was identified in two individuals, including ours, which might explain the differences in presentation (Fathie, 1970).

In our case MRI suggestive of evidence of L5 vertebrae body destruction with a large peripheral lesion extending through anterior vertebral cortex into left lower lumbar para vertebral , pre vertebral region most likely suggestive of tuberculosis abscess . Contrast enhanced Mri was done on 05/11/2020 , it was suggestive of erosive degeneration of L4,L5,S1 vertebral body and ala of sacrum . This characteristic was indicative of TB SPINE, since it involved a large bilateral psoas abscess including the left illiacus, paraspinal muscle, and epidural region. The patient was transferred to the hospital for surgery, and the material was submitted to the hospital for hsitoloigcal investigations, which is the hallmark symptom. Surgical excision plus radiation if the remnant disease is present postoperatively, or chemotherapy if metastasis occurs, would be the major treatment for HPC. As we know, HPC cannot be differentiated by MRI and is difficult to recognise intraoperatively. In our investigation, histological report indicated of hemangiopericytoma. Close monitoring and consideration of adjuvant treatment are required after surgical enblock removal.

CONCLUSION

Intradural, intraspinal extradural meningeal/primary osseous, and secondary metastatic osseous HPCs in the spine are uncommon. Complete surgical removal and RT appear to be the therapy of choice for HPC in the spine, regardless of subtype. Overall and progression-free survival rates for patients have improved over time; nonetheless, therapy for it remains unsatisfactory and a major problem.

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Informed consent: Written &oral informed consent was obtained from the patient.

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