

## Paraplegia due to spinal cord compression caused by vascular hemangioma in pregnancy

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### ABSTRACT

Vertebral hemangiomas are benign asymptomatic lesions, which become symptomatic during pregnancy in about less than 1%. The patient may present with radicular pain, and there might be neurologic compromise in as many as 40% of the patients. We present a case of 24 year old women at thirty five weeks of gestation presenting with paraplegia and urinary hesitancy. Magnetic resonance imaging (MRI) was suggestive of neoplasm of the vertebra.

**Key words:** hemangioma, pregnancy, paraplegia

### INTRODUCTION

Hemangiomas of the vertebrae are benign lesions that occur in 10-12% of the population and are mostly asymptomatic. It manifest during pregnancy usually in the third trimester. We report a case of 24 year old primigravida who reported with paraplegia at 35 weeks of gestation.

### CASE REPORT

24 year old women at thirty five weeks of gestation presented with paraplegia, had history of tingling sensation and mild pain in the lower limbs for one week, followed by weakness. The weakness was progressive and disabling. A local doctor prescribed Methylcobalamine but of no relief. There was gradual loss of sensation; constipation and hesitancy of urination. On examination, her vitals were stable. Cardiovascular and respiratory system examination was unremarkable. There was no obvious wasting of the muscles of the lower limbs. Power: Grade 0/5 in the lower limbs while the powers in the upper limbs were grade 5/5. Tendon reflexes in the lower limbs were sluggish. There was no sensation below the level of the umbilicus.

Obstetric examination revealed a gravid uterus corresponding 36 weeks with a single live fetus in cephalic presentation. The patient was subjected to Magnetic Resonance Imaging (MRI) which showed enhancing altered signal intensity lesion involving the T3 vertebra with associated soft tissue swelling causing cord compression.



**Fig.1.** Showing the presence of the lesion as shown by the two arrow heads

The differential diagnosis considered in this patient was transverse myelitis, Tuberculoma and spinal tumours. In view of a single vertebral involvement, Tuberculoma etiology was ruled out. Spine surgery was planned and it was decided to perform a cesarean section in the same sitting. Dorsal decompressive laminectomy involving the D2-D4 vertebra with D1-D6 contour rod fixation was done. A biopsy

was also taken from D3 vertebral body. Cesarean section was uneventful. A live female baby of 2.5 kg was delivered with a good APGAR score. Postoperative period was uneventful. The patient was hospitalised for 2 weeks and did not regain muscle power. Histopathological examination of the biopsy showed hemangioma of the vertebra.

## DISCUSSION

Vertebral hemangioma is one of the most common benign tumors of the spine, having prevalence of 10% to 12%.<sup>1,2</sup> Less than 1% of vertebral hemangiomas cause neurologic symptoms either spinal cord or nerve root compression; if not treated immediately, can lead to serious neurologic deficits. Majority of patients present in the third trimester as in our case and a few of the patients report in the second trimester.<sup>3</sup> Symptoms include radicular pain in most cases, and neurological compromise can occur in up to 40% of symptomatic cases.<sup>1</sup> There was neurological compromise in our patient in the form of paraplegia. Vertebral hemangioma causes neurologic impairment through a variety of mechanisms, including compression fracture of the involved vertebra, sudden hemorrhage into the extradural space, hypertrophy of the posterior cortex of the vertebral body, or enlargement of the lamina and facets as a result of the angiomatous invasion, spinal cord ischemia caused by "steal" and sub-periosteal growth of the tumor, and spinal cord compression from extradural mass.<sup>4,5</sup> The physiological, hemodynamic and hormonal changes in pregnancy act to enlarge a preexisting hemangioma and most of these changes peak in the third trimester. Venous

obstruction and increased intra-abdominal pressure causes redistribution and increased blood flow volume through the vertebral venous plexus, resulting in the expansion and growth of vertebral hemangiomas, giving rise to the symptoms. MRI is the first diagnostic procedure of choice in pregnancy. The characteristic appearance is of a hyperintense mottled or "starburst" signal on T1 and T2 weighted images. Extradural component and hemorrhage is also visualized.<sup>3</sup> During pregnancy, treatment options includes: 1) induction of preterm delivery, 2) expectant observation and postpartum treatment; or 3) ante-partum surgery.<sup>1</sup> The lessons learnt from this case are that any unusual complaint like tingling sensation and weakness in pregnancy needs detailed evaluation. Had this patient been evaluated and intervened earlier before paralysis or loss of bladder control set in, prognosis and recovery would have been better.

## CONCLUSION

Awareness regarding these rare problems is required for early referral and management.

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