CASE REPORT

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Progressive Lower limb Paraplegia in Pregnancy - An Aggressive Vertebral Haemangioma: A Case Report

ABSTRACT

We present a rare case of spinal cord haemangioma in a pregnancy at 38 weeks of gestation, managed with multidisciplinary approach. The patient presented with back pain and neurological symptoms, diagnosed via MRI. Successful management involve close monitoring, pain control, and planned delivery. This case highlights the importance of prompt diagnosis and collaborative care in ensuring optimal outcome for both mother and baby.

Key words: Spinal cord haemangioma, digital embolization

INTRODUCTION

Spinal haemangioma is a benign vascular tumour mostly seen in the thoracic region of the spine. The aetiology of haemangioma is unclear and probably multifactorial. They are usually asymptomatic and are discovered incidentally.(1) In a few patients, however, aggressive vertebral haemangioma can cause radicular pain, bone pain, or compression myelopathy. (2) Hormonal and physiological changes in pregnancy can lead to accelerated vascular growth of haemangioma. Usually surgical treatment is reserved for severe cases with a rapid onset of neurological symptoms. However the use of conservative treatments with a minimally invasive approach is still a topic of debate.

We report a case of an aggressive vertebral haemangioma in term pregnancy that was successfully managed by a minimally invasive procedure with multidisciplinary approach after termination of pregnancy.

CASE REPORT

A 21- year old housewife, primigravida at 39 weeks of gestation with Rh-negative blood type presented to Holy family hospital with complaints of inability to walk and being unable to move her legs (came in a wheel chair), associated with bilateral lower limb pain & weakness for the past 2 days. No relevant clinical history or trauma was reported.

She has been married for 6 month with a spontaneous conception, booked and immunized at our hospital. Routine Antenatal investigations and foetal sonography are within normal limits; she received an injection of Anti D at 28 weeks. She presented 10 days ago to the outpatient department with gradual bilateral lower limb weakness and leg pain, for which a Doppler study of the lower limbs was advised but she declined due to financial constraints.

This time, she was immediately admitted for the evaluation lower limb paraplegia and further treatment. A

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Neurophysicians referral was given; on clinical examination, GCS was 15/15. Motor system: power of both upper limbs is 5/5. The power of the left lower limb is graded 1-2. Strength in the upper limb is all normal. The hip flexion in both lower limbs is grade 2, and knee extension is grade 2. The patellar and ankle reflexes were grade 3, and the Babinski sign was positive in both the limbs. The sensory examination showed normal findings in the upper extremities, while there was a decrease in both lower limbs. The abdominal examination showed a single live pregnancy at term with cephalic presentation. Bladder and bowel functions are intact. The colour Doppler of the lower limb, coagulation profile and all reports came back within normal limits. An MRI of the brain and dorsal spine was done, which showed a giant haemangioma at D10 with cord compression (Figure 1).

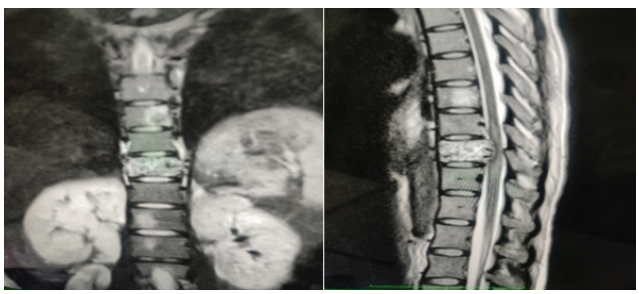

Figure 1: A giant haemangioma at D10 with cord compression

A multidisciplinary discussion among obstetricians, neurophysician and neurosurgeons, favoured a decision for digital subtraction angiography (DSA) with embolization, spinalT10 epidural and decompression after the termination of pregnancy. Emergency caesarean section was performed under general anaesthesia, and she delivered a male baby weighing 2.5 kg, who cried immediately after birth. Both intra-and postpartum periods were uneventful. After the C-section, DSA + embolization were planned on 3rd postoperative day, and an injection methyl prednisolone 1gram in 250 ml of Normal saline started from 2nd Postoperative days for 5 days.

Embolization was performed with progreat 2.4F 150 cm and PVA (polyvinyl alcohol) particles in the range of 150 -250 and 250-355HM with right to left T10. Successful tumour embolization was performed with 5F SS and 5F RDC

On the 2nd post- embolization day, the patient reported an improvement in strength in her legs. The patient gradually started standing and walking. A week after embolization, the patient walked without support and was advised to undergo physiotherapy, so decompression surgery was put on hold in view of the improvement of her symptoms. She was discharged on 10th days of admission with a tapering dose of oral steroids and was advised to have a repeat MRI spine after 6 weeks

Giant atypical haemangioma in the D10 vertebral body on T1 and T2W1, previously seen posterior vertebral convexity indenting the thecal sac is not seen in the present study, suggesting regression in size. There is a resolution of previously seen mass effect on the dorsal cord and the previously seen cord signal abnormality (Figure 2).

At the 6 -month follow -up, there is no evidence of local progression of the haemangioma, the neurological function is normal, and the patient is fully ambulant. She returned back to work and social life.

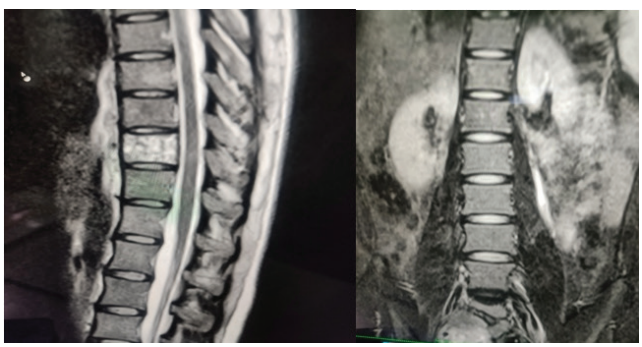

Figure 2: ?????

DISCUSSION

Pregnancy plays an important role in the pathogenic mechanism of vertebral haemangioma by increasing blood volume during pregnancy, especially in the third trimester.(3) Hormone regulation and hemodynamic factors are considered to be leading factors in the lesion's rapid growth during pregnancy.

The great majority of these cases presented during the third trimester of pregnancy. Our patient also had symptoms in the third trimester of her pregnancy. Back pain, followed by acutely or sub acutely progressing paraplegia and sensory loss, were the typical presenting symptoms. As for the diagnosis of vertebral haemangioma, MRI is the first diagnostic choice in pregnancy because it saves the patient and the foetus from ionizing radiation. The diagnosis and treatment of aggressive vertebral haemangioma during pregnancy are controversial due to consideration for both maternal and foetal safety (4). Management is based on the week of gestation and the severity of the neurological impairment.

Treatment options for symptomatic haemangioma in pregnancy include embolization, percutaneous sclerotheraphy, vertebroplasty and surgery.

Patients with a gestational age of less than 32 weeks should have surgery advised only in cases of severe symptoms; between 32 and 36 weeks of gestation, expectant observation is considered, and surgery is reserved for severe cases of paraplegia. After 36 weeks of gestation, delivery is suggested, followed by appropriate management of the tumour.

Our patient underwent a caesarean section followed by endovascular embolization (EE) with polyvinyl alcohol foam which produced dramatic improvement and remission, and she recovered completely. An 11- month follow- up was done, with no recurrence of back pain, neurological symptoms, or any other complaints noted.

CONCLUSION

Pregnant patients with symptomatic spinal haemangioma are a rare phenomenon and require a careful, multidisciplinary approach to improve the outcome. The diagnosis of cord compression can be delayed as a result of multiple clinical distracting factors in pregnancy.

Despite the accumulating information on the management of symptomatic haemangioma during pregnancy, we found no class 1 data to support any specific modality of treatment, nor the preferred timing for its applications. This case highlights the importance of prompt imaging and a cohesive multidisciplinary approach in order to provide optimal treatment for the patient.

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