

# VERTEBRAL TUMORS MIMICKING EXAGGERATED PREGNANCY SYMPTOMS—A NEED FOR CAREFUL EVALUATION

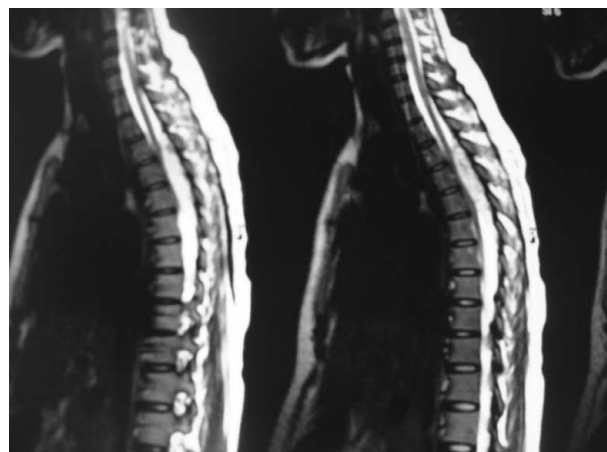
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A 27-year-old housewife, gravida 3, para 2, had been booked with her local general practitioner in Bahawalpur from 8 weeks of gestation in the present pregnancy. Her last menstrual period was May 18, 2007, and she had an estimated expected date of delivery of February 25, 2008. She had previously had two normal vaginal deliveries at term, and her second child was 3 years old. Her first trimester in this pregnancy was uneventful, and she took folic acid supplements. During the second trimester, she had a fetal scan performed to detect anomalies at 20 weeks. When she reported to her general practitioner with complaints of generalized backache and pain in the legs at 30 weeks' gestation, she was given a complete blood analysis and routine urinary examination. Her reports showed hemoglobin of 10.9 g/dL, and the urinalysis was normal. The attending doctor attributed the pain to generalized weakness and lumbago of pregnancy, and prescribed iron and calcium supplements. When the symptoms continued, analgesics were added to the prescription. After 4 weeks, the patient's backache persisted, and the pain in her lower limbs had progressed to motor weakness; at 34 weeks' gestation, she had numbness in both legs with complete paraplegia, although she did not have any urinary or fecal incontinence. At this point, the patient was referred to our tertiary care centre. On examination, she was lying comfortably in bed and was well-oriented in time, space and person. Her blood pressure was 110/70 mm Hg, she had a pulse of 76/min and her respiratory rate was 20/min. Her Glasgow Coma Scale rating was 15/15, and higher mental functions were intact. Muscle power in both upper limbs was 5/5 with normal

tone and reflexes. However, the patient was unable to stand or walk without support. Muscle power was 1/5 in both lower limbs, with knee joint stiffness and bilateral exaggerated reflexes. Her straight leg raise measurement was only 35–40°. Abdominal examination revealed a fundal height of 34 weeks, longitudinal position, cephalic presentation, and fetal heart rate of 136/min.

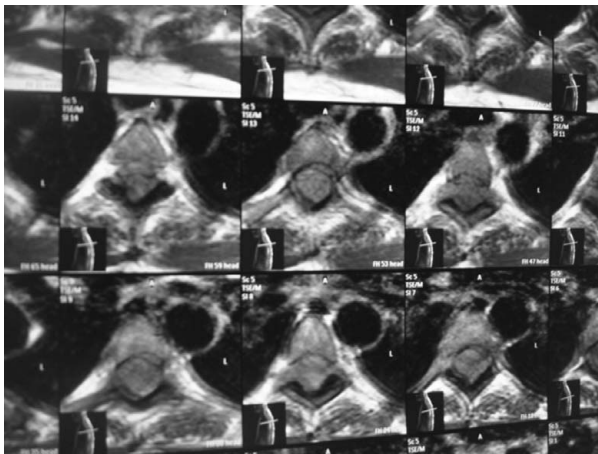
On evaluation, magnetic resonance imaging revealed a large extradural tumor extending from T3–5 (Figures 1–3). The team of obstetricians and neurosurgeons decided to first deliver the baby and then operate on the tumor. After informed consent was obtained from the couple, steroid administration for fetal lung maturity was given and a Bishop score was obtained. Labor was induced by stripping the membranes, followed by insertion of a 3-mg dinoprostone vaginal pessary. The patient went into active labor 3 hours after induction. Spontaneous rupture of the membranes occurred at this stage. Labor progressed rapidly; about 4 hours post induction, a male baby was delivered by spontaneous vertex delivery. The baby weighed 2.1 kg, and the Apgar score was 9/10 at 1 and 5 minutes. The baby was placed with the mother.



**Figure 1.** Longitudinal view of the tumor by magnetic resonance imaging.



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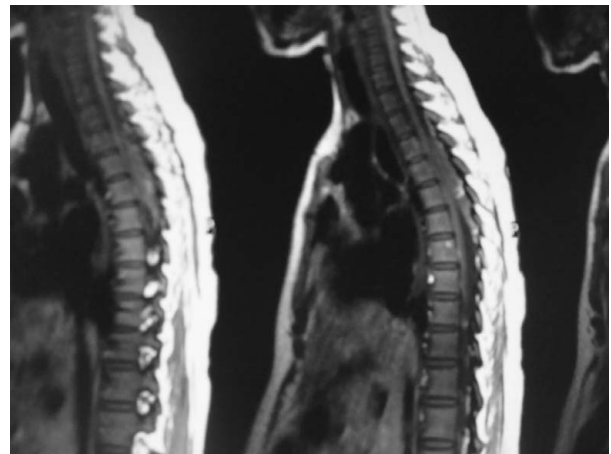


**Figure 2.** Transverse section of the tumor by magnetic resonance imaging.

Tumor surgery was planned for the patient under general anesthesia on the next day (i.e. 12 hours postnatally). The surgery was performed with the patient in the prone position, and an incision was made at the level of T3–5. Subperiosteal dissection was carried out with laminectomy of T3–5. A large extradural brownish tumor was removed and was sent for histopathology. Hemostasis was secured, and the wound was closed in layers after placing drains. The patient's recovery was smooth. From the first postoperative day, she started to flick her toes. Physiotherapy was commenced from the first postoperative day, and the wound drains were removed. The patient developed acute bladder spasm on the third postoperative day, and she developed urinary incontinence despite an indwelling catheter, and she was treated with tolterodine and oxybutynin. On the sixth postoperative day, the patient was able to stand with support and could actively move her lower limbs. Urinary complaints resolved with medical therapy, and the catheter was removed on the ninth postoperative day. The patient was able to walk home on the tenth postoperative day.

The histopathology report revealed that the telangiectatic vascular channels were lined by flattened endothelial cells. The channels were lined back to back with no evidence of lymphoma, malignancy or granulomatous inflammation. Findings are consistent with extradural cavernous hemangioma negative for malignancy.

Pregnancy is a recognized risk factor for quiescent vertebral hemangiomas becoming symptomatic; this usually occurs during the third month of gestation. Ours is a classic case in which diagnosis was delayed, as doctors believed that the presenting symptoms were associated with pregnancy-related backache. In our review of the literature, we found a similar case report by Chi et al [1] in which a 26-year-old woman in her



**Figure 3.** Longitudinal view of the tumor by magnetic resonance imaging.

24<sup>th</sup> week of pregnancy presented with upper back pain and progressive spastic paresis in the legs. Neuroimaging studies revealed a diffuse C7 vertebral body lesion with extradural extension and compression of the spinal cord consistent with a vertebral hemangioma for which successful decompression was accomplished [1].

Bandeira et al [2] in their review of the literature found 23 cases of pregnancy-related vertebral hemangiomas dating back to 1927. Prepartum surgical decompression was performed in eight patients, postpartum surgery was performed in 12, and surgery was not performed in four. Overall, patients experienced excellent neurologic recovery, regardless of the severity and duration of the spastic paresis [2].

In a case in Turkey, a 22-year-old woman at 36 weeks' gestation presented with acute onset of upper back pain and progressive paraplegia. Imaging studies revealed a T4 vertebral hemangioma, which involved the vertebral body, pedicles, and transverse and spinous processes with a focal extradural extension of soft tissue. She underwent emergency cesarean delivery and endovascular embolization [3].

In another case of vertebral hemangioma during pregnancy in a 21-year-old woman presenting with paraparesis of rapid onset, cesarean section was performed, and this was followed by emergency laminectomy with improvement of symptoms and neurologic deficit [4].

In their evaluation of treatment strategies for symptomatic vertebral hemangiomas at the University of California, Acosta et al [5] determined that options included transarterial embolization, embolization followed by surgical decompression or vertebral reconstruction with arthrodesis, and percutaneous vertebroplasty alone.

There may be a variety of treatment options for symptomatic vertebral hemangiomas, but the diagnosis can be difficult given the presence of persisting symptoms which

can also be associated with a normal pregnancy, i.e. backache and pain in the legs. With the availability of newer and safer evaluation techniques, it is imperative that persistent and worsening patient symptoms be evaluated in detail. Vertebral cavernous hemangiomas in pregnancy are uncommon, but more and more cases are being reported and these require timely intervention.

## References

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