Progressive neurological symptoms in a diabetic patient

S Al-Mahroos, A K Malik, K Sangam, K Burashid

A 59-year-old woman presented with a history of low backache, progressive weakness of legs, and 'electric' shooting pains with numbness in the legs of 8 months duration. There was no bladder or bowel disturbances. She had suffered from non-insulin-dependent diabetes mellitus (NIDDM) for the past 10 years, well controlled with glibenclamide. Physical examination revealed spastic paraparesis with spinothalamic sensory loss at D7 dermatome level. The rest of the systemic examination was unremarkable. Other investigations revealed: haemoglobin 11.0 g/dl, erythrocyte sedimentation rate 20 mm/h, white cell count 9 x 10^9/l, differential normal; creatinine was 97 μmol/l, fasting blood sugar 6.9 mmol/l. Electroencephalogram and chest X-ray were normal. A spinal T2-weighted magnetic resonance imaging (MRI) scan is shown in figure 1.

Questions

1. What is your diagnosis?
2. What are the radiologic findings?
3. How would you treat such a patient?
Answers

QUESTION 1
The clinical features are of spinal cord compression and are manifest when the lesion expands in the epidural space.1-3

QUESTION 2
The hyperintense signals in D3, D4, and D5 vertebrae with distinct cord compression at D4, are consistent with haemangioma. The patient underwent dorsal laminectomy, and histology confirmed this diagnosis (figure 2).

QUESTION 3
Asymptomatic patients harbouring incidental haemangiomas do not require further evaluation. However, symptomatic painful haemangiomas may be irradiated or immobilised by selective angiography.1,4 Rarely, patients require decompressive surgery as performed in our case.1,3

Figure 2 Micrograph showing thin-walled capillaries bordered by bone

Learning points

- haemangiomas of vertebra are incidentally detected in routine MRI
- many patients are asymptomatic
- only cases with features of cord compression need urgent surgical intervention
- painful haemangiomas may benefit from irradiation or selective embolisation

Discussion

Vertebral haemangiomas have an incidence of 10-12% in the population, based on autopsy series and review of plain X-rays of spine. These lesions are detected incidentally or during evaluation of either neck or back pain.1,5 The majority of cases are diagnosed during adult life, nearly one-third presenting in the 5th decade. Women are affected more than men. They can be either solitary or multiple and are usually located in skull, vertebrae and jaw bones. In the skull, sunburst trabeculations occur due to elevation of the periosteum. Plain X-rays show loss of vertebral striations or a honey comb appearance within the vertebral body, a diagnostic feature of haemangioma, Disc spaces are usually intact and compression fractures are rare. Increased signal intensity on T2-weighted image on MRI scan is characteristic. Grossly cut surfaces of these lesions have a currant-jelly-like appearance. Microscopy reveals either clusters of thin-walled capillaries or a thick-walled lattice-like pattern of endothelial-lined cavernous spaces filled with blood. Asymptomatic patients harbouring incidental haemangiomas do not require further evaluation. However, symptomatic painful haemangiomas may be irradiated or immobilised by selective angiography.1,4 Rarely, patients require decompressive surgery, as in our case.1,3

Final diagnosis

Spinal cord compression due to vertebral haemangioma.

Keywords: haemangioma; spinal cord compression; magnetic resonance imaging

1 Fox MW, Onofrio BM. The natural history and management of symptomatic and asymptomatic vertebral haemangiomas. J Neurosurg 1993;78:36-49.