Intraspinal Lipoma

A Case Report

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SUMMARY

A case of intraspinal lipoma is reported. The condition is discussed, the literature reviewed and the method of treatment described.


Intraspinal lipoma is a rare condition, which accounts for 1% of all primary spinal cord tumours, and has been described by Russell and Rubenstein as a 'pathological curiosity'. Only 136 cases have been reported to date. The rarity of the condition has prompted this report of an additional case.

CASE REPORT

A 16-year-old Sotho male presented with a history of weakness of both legs for 16 months. He had been incontinent of urine for 8 months and of faeces for 2 months. The muscle weakness had progressed gradually and on admission he had been totally paraplegic for a few months. He had also complained of pain in the right knee at the onset of the symptoms.

On examination he was found to have a sensory level at D3-4 for all modalities of sensation. He was totally paraplegic. There was wasting of the intrinsic muscles of the left hand and weakness of the flexors of both wrists. The trunk musculature was also weak. The reflexes of the upper limbs were decreased and those in the lower limbs were increased. The plantar responses were bilaterally extensor. He had neuropathic knee joints. (This tended to suggest that the history was probably longer than that given by the patient.) Routine haematological investigations were negative. Radiography of the cervical spine and upper dorsal spine demonstrated widening of the spinal canal (Fig. 1). Radiological examination of the knee joints confirmed the clinical diagnosis of neuropathic joints. Cisternal myelography was carried out and demonstrated a total block at C3-4 (Fig. 2).

A laminectomy was carried out from C2 to T4. A lipoma was exposed which covered the whole posterior aspect of the spinal cord except at the upper end of the incision. The lower end of the lipoma was not exposed at this operation. It was not possible to separate the lipoma from the cord, and only a specimen was taken. The dura was left wide open for decompression. Histological examination revealed mature adipose tissue. Postoperatively the patient developed slight movements in the toes, and in the left leg. The patient also regained sensory localisation. There was marked improvement in the power of the upper limbs.

A second laminectomy was carried out 6 weeks later for further decompression, in an attempt to improve lower limb function. This was carried out from D4 to D7. The lower end of the lipoma was found at D7. The dura was again opened widely for decompression. There has been little improvement since the second operation, and at the time of writing the patient was still in hospital for rehabilitation. The poor result of surgery in this case was probably owing to his late presentation.
Fig. 2. Cisternal myelogram showing block at upper border of C3.

DISCUSSION

The occurrence of extradural lipoma can be attributed to the presence of fatty tissue. However, the pathogenesis of intradural lipoma has not yet been elucidated.

Histologically, lipomas are well-differentiated fatty tumours. They may be associated with other congenital abnormalities elsewhere in the body, and with abnormalities of the adjacent vertebral column, e.g. Klippel-Feil syndrome, spina bifida occulta, and are part of the dysraphic syndrome. In about half of these patients a subcutaneous lipoma was found overlying the intradural one. Whether extra- or intradural, they lie on the posterior or posterolateral surface of the spinal cord. In the case of the intradural lesions they 'infiltrate' the cord in a juxtamedullary rather than in an intramedullary location. Intradural lipomas can infiltrate the roots of the cauda equina and the filum.

The extradural lipomas are generally limited in length to one or two laminae. The intradural lipomas are generally more extensive and some which involve the whole cord have been recorded. The usual site is the cervicothoracic spine. Other sites affected are lumbar and sacral, thoraco-lumbar and cervical cord.

Seventy per cent of intradural lipomas occur before the age of 30 years. The clinical evolution is protracted, spread over many years (about 25% for more than 10 years). Remissions, sometimes complete for years, have been reported. The absence of pain, the incidence in the first decades of life and the slow progressive course might be of help in its diagnosis. Involvement of the sphincter usually occurs in the later stages. Pregnancy may precipitate or aggravate the symptoms by means of hormonally induced oedema.

Radiological examination reveals expansion of the spinal canal in about half of the cases of lipoma. Myelography may show an appearance which resembles that of an intramedullary tumour or it may locate the lesion in the posterior aspect of the cord.

Extradural lipomas are easily excised. Intradural lipomas are extremely difficult to remove, since there is no cleavage plane between the tumour and the pia and because they are often enmeshed between the roots. Fibrous septa of the tumour pass into the cord. The procedure of choice is decompressive laminectomy with the dura left wide open, rather than attempted removal which may lead to cord damage and to interference with the blood supply to the cord. Subtotal removal may be attempted by removing lobules of fat between the septa. Both methods usually result in considerable or complete neurological resolution, provided irreparable damage to the spinal cord has not occurred.

REFERENCES