Spinal intradural schwannoma without attachment to a nerve root

Case report

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The authors report an unusual case of intradural schwannoma, without demonstrable nerve root connection. An original explanation is given.

KEY WORDS  •  spinal cord tumor  •  schwannoma

We are reporting an unusual case of a spinal schwannoma with a totally intradural location. There was no attachment to any nerve root. Total enucleation of the mass resulted in uneventful recovery.

Case Report

This 51-year-old man had, for 10 years before admission, complained of increasing weakness of the lower extremities with no pain. Later, he developed neck pain which was attributed to cervical arthrosis. One year before admission, the paraparesis worsened and some weakness developed in the upper limbs which made manual work difficult. There were no sphincter disturbances, but he experienced decreased erection and ejaculation.

Examination. At admission, neurological examination showed spastic paraparesis, more severe on the right, with some weakness of the arms. Myelography with iopamidolo (Fig. 1) showed an intradural extramedullary mass at the C1-2 vertebral level on the right, with contralateral displacement of the cord. Computerized tomography with contrast enhancement confirmed this finding. Bilateral vertebral angiography showed a small shift of the right vertebral artery at the point where it enters the skull. There was no tumor stain.

Operation. A C1-3 laminectomy was performed 1 week after admission. Between the C-1 and C-2 laminae, there was a protrusion of pathological tissue covered by ligamentum flavum on the right. A small
FIG. 2. Photomicrograph of the tumor showing loose connective stroma. Capillaries of various calibers are seen, with walls of different thickness. Bundles of Schwann cells delimited by thin collagen fibers are present. No mitoses or other malignant characteristics are observed. H & E, × 10.

suboccipital craniectomy permitted exposure of the superior pole of an extramedullary tumor, which measured 2 × 3 cm. The tumor was located within the dural layers, lacking attachment to any nerve root. It was compact and lightly vascularized. The external dural layer was opened, and the mass was totally enucleated. The postoperative course was uneventful. At follow-up review 11 months later, the patient was neurologically normal and able to return to his previous job. Histological examination confirmed the diagnosis of type B schwannoma (Fig. 2).

Comment

Intracranial or spinal schwannomas originate from nerve root sheaths; in either instance sensory nerve roots are usually affected. Spinal schwannomas comprise 29% of all spinal tumors. They usually occur in male adults. A totally intradural localization is a rarity: Graham and Bond report the only previous case of an ossified intradural schwannoma.

Besides large afferent and efferent nerve fibers, the spinal dura mater contains a sympathetic plexus which follows the arterial vessels. The nerves of the dura also contain sensory fibers, and the tumor in our case may have involved these fibers. We emphasize that a spinal intradural schwannoma lacking attachment to a nerve root is very rare.

References


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