Redundant Nerve Roots in the Cauda Equina

Case Report

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RECENTLY two cases of redundant nerve roots in the cauda equina have been reported.\textsuperscript{1,2} The following patient is a third example of this apparently rare condition.

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Case Report

This 58-year-old man entered the Veterans Administration Hospital, Washington, D.C., on May 6, 1968, complaining of low back pain and diffuse bilateral leg pain, worse posteriorly and laterally. These symp-
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Examination. The neurological examination was not remarkable except for mild midlumbar and sacroiliac joint tenderness. There was minimal weakness of both plantar flexors. All deep tendon reflexes in arms and legs were 3+ on a scale of 0 to 4. There was bilateral sciatic nerve tenderness but normal straight leg raising. Lumbosacral spine x-rays were not remarkable. Spinal fluid from the L3-4 interspace showed an elevated protein of 150 mg%.

A myelogram carried out with 11 ml of Pantopaque revealed a nearly complete block to the flow of contrast medium at the upper L-2 to mid L-3 vertebrae (Fig. 1 left). Images of prominent serpentine structures could be seen on the film above and below the block. These were interpreted as tortuous vessels or nerve roots. Detailed films of the lower three lumbar interspaces showed no evidence of a ruptured disc. The thoracic and cervical myelography were normal except for cervical spondylosis, which had been related to the patient's hyperreflexia.

Operation. On May 13 a total laminectomy of L-1 through L-3 was carried out. Upon opening the dura we encountered a bundle of nerve roots herniating through the opening. They had been partially coiled back on themselves until released to lie free, as demonstrated in Fig. 1 right. No neoplasm or arteriovenous malformation was seen. A Silastic dural graft was sutured to the dura before closure.

Discussion

The cases described by Cressman and Pawl1 and Schut and Groff2 required a low lumbar laminectomy for decompression while ours was at a higher lumbar level. The first case had a single redundant nerve root and an osteoarthritic bar.1 The second case had three elongated nerve roots.2 In our case, as far as we could determine at surgery, all the nerve roots seen through the laminectomy were elongated and hence redundant in their enclosure so as to obstruct the normal flow of spinal fluid. The nerve roots of the cauda equina were slightly edematous but not otherwise enlarged in diameter. As in the other two cases no past or family history of Dejerine-Sottas or other neuromuscular disease was obtained.

Summary

We have reported a case of elongated and redundant nerve roots in the cauda equina. The myelogram demonstrated a nearly complete block at L-2 and L-3 with serpentine defects in the Pantopaque above and below. The impacted nerve roots were decompressed by laminectomy.

References