ARTERIAL ANOMALIES OF THE SPINAL CORD*

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Vascular anomalies of the central nervous system include both arterial and venous malformations. Although found most frequently in the brain, they have also been encountered in the spinal cord and retina. While the venous and arteriovenous abnormalities have received much attention, those of an arterial nature have rarely been described. A review of such lesions in the spinal cord has disclosed 3 reports.\(^2\,4\,14\) Only in the case of Brasch\(^4\) were satisfactory histopathological studies available. He employed the term, angioma arteriale serpentinicum, to describe his findings. A designation other than “arterial anomaly” as suggested by Wyburn-Mason\(^14\) is unjustified because the inadequate number of postmortem examinations makes it impossible to define the exact nature of the lesion. Names selected because of a gross resemblance to lesions of the brain variously called angioma arteriale racemosum, cirrroid aneurysm, angioma plexiforme and varix arteriale or aneurysmaticus are lacking in specificity and their use only results in error and confusion.

The paucity of reports is surprising in view of the number of these lesions found at operation for spinal cord neoplasm at The Mount Sinai Hospital. Since 1931, 77 intradural, extramedullary cord lesions were exposed. Of this group, 6 could be classified as arterial anomalies. Five cases have been found in the literature after eliminating those of a venous or arteriovenous character. It is felt that similar lesions almost surely have been observed elsewhere but, unfortunately, have never been described. This presentation may act as a stimulus to help establish the arterial anomalies as a nosological entity separating them from the other vascular malformations.

CASE REPORTS

Case 1. A 40-year-old housewife was admitted June 1946 with a 7-year history of sensations of “electricity” in the left leg, occasionally associated with mild low back pain. During the last 4 years intermittent “cramp-like spasms” of increasing severity radiated from the back to the groin. They were aggravated by walking long distances but unaffected by straining. Her pain was worse during menstruation.

Examination. No gross physical abnormalities were disclosed. There was a tendency to drag the right foot. Deep tendon reflexes were increased in the right lower extremity, where Babinski and Chaddock signs were found. Superficial abdominal reflexes were absent on the right. There was a questionable band of hyperalgesia at

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the level of T12 bilaterally and over L2 on the left. Flexion of lumbar spine was limited. There was minimal tenderness on percussion of lumbosacral spine.

Lumbar puncture revealed an initial pressure of 110 mm. of cerebrospinal fluid; manometrics normal; no cells seen; total protein 38 mg. per cent. Roentgenograms showed only slight narrowing of the lumbosacral interspace. Pantopaque myelography disclosed an obstruction at level of upper border of 1st lumbar vertebra. Manometrics repeated the next day again showed no evidence of block. A myelo-

![Image](image1.png)

**Fig. 1. Myelogram (Case 1) showing curvilinear shadows in the lower dorsal region outlining the anomalous vessels. A. Cisternal myelogram; B. Endolumbar myelogram.**

gram, repeated through the cisternal route, showed pantopaque dispersed in a scattered, irregular pattern at the level of lower 3 dorsal vertebrae and 1st lumbar vertebra, suggestive of an arachnoiditis. She was discharged with this diagnosis.

**Course.** The patient’s symptoms persisted and she was readmitted July 1947. Attacks of pain in the low back and left thigh occurred more often and were of greater intensity. There were no sphincteric disturbances. Neurological findings were similar to those noted at previous admission.

Manometric studies indicated a partial block. On being repeated 3 days later, this finding was confirmed. Spinal fluid studies were normal.

Pantopaque myelography revealed an almost complete block at the space between the 1st lumbar and 12th dorsal vertebrae. Here, the oil dispersed and trickled down the left side. Oil injected through the cisternal route was delayed temporarily at the 10th interspace where the column dispersed, forming globular and curvilinear shadows (Fig. 1). While the findings at this time were suggestive of an arachnoiditis, varices or a hemangioma of the cord could not be excluded.