

tremity, at times so pronounced and painful that the knees were forcibly flexed over the chest. There was also retention of urine. Patient lies recumbent on the back and is unable to move the lower extremities. Passive movements also hardly possible. Knee reflexes very much exaggerated. Babinski's sign present. Percussion of the muscles calls out painful twitchings. Stroking of the soles or legs is attended with clonic contractions of the lower extremities and of the abdominal muscles. Abdominal reflexes absent. Sensation lowered in the lower extremities. This condition grew gradually worse until the sensation of pain and temperature entirely disappeared, while that of touch disappeared over a still greater area, extending upward. Late in the disease there occurred curvature of the spine at the third lumbar vertebra. In the course of the disease the body of the patient grew, as it were, shorter, the chest approached the pelvis. The abdominal muscles were almost in a continual state of contraction. Dyspnea and attacks of tightness in the chest, Cheyne-Stoke's respiration and marked slowness of the breath (eight per minute) supervened. Lumbar puncture during the early period of the disease brought forth 10 to 12 cc. of a limpid liquid, with but little albumin. After the second puncture 5 cc. of one-half per cent solution of cocaine was introduced into the subdural space with remarkable improvement to the contractures and pains, which lasted for three hours. Of the drugs employed, scopolamine (hyoscyamine) seems to have given the best results. The autopsy revealed a tumor of the dura mater, which was microscopically seen to be a sarcoma. The second patient was admitted to the hospital with pains in the back, inability to move the legs, and complaining of tormenting thirst. The trouble began seven months before with pains in the back, between the scapulæ, which would at times become so severe as to render her unable to work. Some four weeks before admission, the soles began to swell; this was followed by swelling of the abdomen, while two weeks ago patient became unable to move the left leg. There is no retention of either urine or feces. Patient recumbent on the back, indifferent, consciousness slightly impaired. Knee reflexes exaggerated, Babinski's sign present, ankle clonus indistinct. It is rather difficult to pick up the patient, as the spinal column is quite stiff. Patient complains especially of pains in the legs. Autopsy (patient died on the third day of admission to the hospital) gave the following: The heart slightly hypertrophied, lungs somewhat adherent, the thyroid gland hypertrophied, full of cysts; the bladder distended, its mucous membrane covered with necrotic spots; ovaries thickened. The vessels of the brain markedly calcified; the spinal column much congested; in the region of the third and fourth thoracic vertebræ, to the left, there is seen a hard swelling, which is microscopically a fibro-sarcoma. The interesting feature of this case is the very rapid course of the disease. The first stage, what the author calls the stage of neuralgia, was quite short, while the stage of paraplegia, that usually occupies months and years, was hardly extended over two weeks.

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CASE OF TUMOR OF THE SPINAL CORD, WITH NECROPSY. Sinclair Gillis and Flashman (Australasian Medical Gazette, Nov. 20, 1902).

Diagnosis based on history of numbness in left hand (seven months' duration), followed by weakness in left hand and arm, and later by weakness in the right arm and in legs. Marked analgesia, anesthesia slight, except in left hand; anesthetic and analgesic areas being dissociated, thus, apparently indicating lesion of central gray matter in upper cervical region of cord. The existence of neuralgia, to a certain extent, in the left occipital region, tactile sense but slightly involved, indicated, possibly, syringomyelia. Subsequently there was great spread of analgesia (slight involvement of tactile sense), wasting of muscles of right palm, rigidity and weakness of

right arm, followed by same condition in the left, spastic paralysis of lower extremities, involvement of sphincters, absence of pain, and, finally, death by bulbar paralysis. Postmortem: Brain and meninges normal. Attached to the spinal dura mater, on the right side, and a little posteriorly, about a quarter of an inch below the foramen magnum, was a growth the size of a shelled walnut. It was irregularly bossed, and attached to the dura by a narrow pedicle, and lay free in the subarachnoid space. It protruded through the foramen magnum one half inch, lying behind and to the right of the cord, which it compressed in the region of the first and second cervical segments. Cord here somewhat softened. A horizontal section close below the foramen magnum bisected the growth, leaving the lower fragment attached a quarter of an inch below to the dura mater, and the upper by a fine filament, to the medulla. Cord not invaded by growth, and, beyond softening in region of growth, microscopically normal, section of growth showed it to be a sarcoma, round celled variety. Nerve cells, all regions of spinal cord normal (Nissl method). Few scattered degenerated fibers in the ventrolateral white columns, especially ventral portion (Marchi method). Nearly whole medulla exhibited extensive fiber degeneration, probably due to pressure. Both inferior cerebellar peduncles showed well marked degeneration, affecting one-third of fibers, due to pressure on direct cerebellar tracts and external arcuate fibers. Pyramidal tracts slightly involved. Degeneration up into pons, limited to region of mesial fillet.

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ARTERIO-SCLEROSIS AS A CAUSE OF NERVOUS DISEASE. M. Allen Starr
(Medical Record, July 4, 1903).

A careful study of two hundred consecutive cases of apoplexy in private practice has shown that in 80 per cent of these cases there have been distinct prodromata of the apoplectic attack. There were various symptoms which have usually been regarded as neurasthenic, pointing to a disturbance of function in the brain, chiefly in the cortical activity. Dulness and hebetude, difficulty of clear thinking or of remembering events of recent occurrence, or a general sense of perplexity. Others complain of a temporary sensation of numbness in one limb or one side of the body, or pains, or visual or auditory symptoms. Such symptoms are to be traced to malnutrition of the neurones, resulting from arterial disease. The writer advises thorough investigation of the condition of the blood vessels, especially the heart, and tension of the arteries, and when the condition of arterial sclerosis is recognized, appropriate treatment will make much of the so-called neurasthenia of middle age disappear.

The majority of the diseases of the spinal cord are equally traceable to disease in the vessel wall. Anterior poliomyelitis, bulbar paralysis, and ophthalmoplegia, when not distinctly infectious, are due to rupture or thrombosis of some branch of the anterior spinal artery supplying the anterior gray horns of the spinal cord. Myelitis, whether disseminated or transverse, if not due to infection, is due to a rupture of a blood vessel which has suffered from disease. Spastic paralysis, commonly known as Erb's syphilitic paraplegia, is now recognized as due to malnutrition of the dorsal region of the spinal cord, with consequent descending degeneration of the lateral columns. The cause of the malnutrition is syphilitic endarteritis obliterating the spinal blood vessels. Senile paraplegia, in which a gradually advancing weakness culminates in a slowly progressive paralysis of the legs, with imperfect control of the rectum, is due to obliteration of the blood vessels, to the thickening of their walls, and to a consequent malnutrition of their parts. Combined sclerosis is due to the same cause. Disease of the peripheral nerves is occasionally due to endarteritis of the small vessels. The various forms of neurasthenia and neuralgia are fre-