

ralgias which are sometimes purely cutaneous and show themselves by an extreme tenderness of the skin of the penis, the scrotum, the region of the anus, and the mons Veneris. In many instances the testicle is affected and, as we have pointed out above, becomes very tender and the seat of violent paroxysmal pains. Although there may be intervals in which the neuralgia disappears, the tenderness and irritability remain as long as the disease of the nerves is present.

Other nervous affections of the male urinary apparatus have been studied by Oberländer (cf. lit.), who has called attention to the fact that varicocele, chronic gonorrhœa, hydrocele multilocularis, tuberculosis, carcinoma, etc., frequently give rise to such disorders, and indeed not only do the just mentioned cutaneous forms occur, but also a peculiar neuralgia of the urethra, which becomes particularly distressing during coitus and micturition, is frequently known to develop under the influence of such affections. The remains of a gonorrhœa together with chronic dyspepsia may produce a chronic hyperæsthesia of the mucous membrane of the bladder, to which little attention has been paid as yet. The pain appears periodically, affects the whole bladder region, and radiates into the urethra and the ureters. Slight errors of diet may evoke violent exacerbations of the trouble. Neuralgia of the bladder is found in neurasthenia, but also at times in the initial stage of tabes; hence it would be necessary to decide, if we have diagnosed a neuralgia of the bladder, whether it is due to a cystitis or a spinal disease, or whether, on the other hand, it constitutes an affection by itself.

The neuralgia of the prostatic gland has recently been studied by Preyer of Zürich; he distinguishes a hyperæsthesia of the organ proper from a hyperæsthesia of the prostatic portion of the urethra, and thirdly describes an irritability of the muscular portion of the gland. Paroxysmal pains and spasms of the sphincter vesicæ are the most prominent symptoms of the affection. The treatment consists partly in attending to the general health, partly in surgical measures, the passing of sounds etc. (Berlin, Fischer, 1891).

Anæsthesia of the mucous membrane of the bladder and of the urethra as well as loss of the muscular sense of the bladder make it impossible for the patient to say with the eyes closed whether he is voiding urine or not. It may happen to tabetics, in whom the condition is not infrequently met with, that, hav-

ing given up all attempts to micturate after unsuccessful straining, they pass their urine involuntarily and become only conscious of the fact when they feel the dampness of their clothes. This anæsthesia does not seem, however, to occur as an independent disease, but would appear to be always of central origin.

The motor disturbances affecting the muscles which expel the urine and those which close the bladder may be of an irritative or a paralytic nature, the former constituting what is known as strangury; the latter are by the laity comprehended under the name of "weakness of the bladder." Both may be symptoms of chronic inflammation of the urethra or of certain spinal diseases, and may also occur independently, as purely nervous affections. The desire to urinate every few minutes, a desire which is increased after drinking alcoholic beverages, is not infrequently alternated by spastic conditions of the muscles of the bulb which give rise during micturition to spasmodic excruciating pains in the perinæum which radiate to the thighs and the buttocks.

In all cases of this kind the treatment is generally begun with the usual anti-neuralgic remedies, of late years also with cocaine. However, the result is often very unsatisfactory. We should always carefully search for possible underlying abnormalities, such as an elongated adherent preputium, insufficiently dilated or tight strictures, flexion or version of the uterus, or pathological changes in the rectum. If such be found the neuralgia is to be regarded as a reflex neurosis, and we have to direct our therapeutic efforts to the primary cause, by which procedure we may be able to improve and eventually cure the neuralgia. To the same class of reflex neuroses belongs the enuresis nocturna, which is rather common among children. The trouble can usually be traced to irritation in the urethra or at the orifice, such as inflammatory conditions, slight adhesions of the mucous membrane far back in the urethra, too narrow an orifice of the urethra, and the like. It has been claimed that the urine sometimes contains an irritating substance which produces reflexly the enuresis, which can be controlled by the administration of mild narcotics. (Aqua Amygdal., amar., etc.—Rohde, Berl. klin. Wochenschr., 1893, 42). Here, of course, attention to such primary disorders is the first step in our treatment, and dilatation of the posterior portions of the urethra with dilators made for the purpose will often be followed

by striking results (Oberländer, Berliner klinische Wochenschrift, 1888, 31).

By coccygodinia we mean a neuralgia which is characterized by pain over the region of the coccyx. The affection is more frequently met with in women than in men, and the pain, which shows paroxysmal exacerbations and comes on more particularly during the act of defecation, may attain to a frightful pitch. The causes of the affection are obscure, yet we are probably not far from being correct in assuming that in many cases it is of reflex origin, as in men especially treatment of the genitals—a diminution of an abnormal sensitiveness of the pars prostatica ureth., etc.—may be followed by surprising results. In some cases the pains appear during sleep without any appreciable cause, in others they have been known to occur after traumatism. I have repeatedly observed them in neurasthenic and hysterical patients. The excision of the coccyx, an operation which in desperate cases has been undertaken for relief of the pain, should, of course, not be resorted to until all other means, particularly energetic application of the faradic brush, have been thoroughly tried.

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As to the motor disturbances—and of these we will take up first the paralyzes which occur in the distribution of the sacral plexus—here, too, those of the sciatic nerve are the most important. Such lesions may affect the nerve high up in the pelvis, or soon after its exit from it, or still lower down in its branches. The first are almost always caused by traumatism or pressure exerted for a comparatively long time—e. g., by a pregnant uterus, the child's head during labor (Vinay), tumors, etc. The others often constitute a symptom of some other disease.

External popliteal (peroneal) paralysis, in which the muscles of the anterior surface of the leg are affected (the extensors of the toes, the tibialis anticus, and the peronei), is easily recognized. The foot hangs down flaccidly, it can not be dorsally flexed, abducted, nor adducted. As a result, walking is very much impaired, since the point of the foot often trips over prominences on the floor, but by raising the thigh higher than usual the patient somewhat overcomes the difficulty. As the point of the foot or the outer margin is first put to the ground in an awkward manner, the gait is very peculiar and highly characteristic of this form of paralysis. Contractures of the calf muscles, which may later develop secondarily, give rise to a permanent position of talipes equinus or talipes equinovarus. External popliteal paralysis may be brought on by the occupation of the patient. It has been seen as the result of pressure in those who, from the nature of their work, have to be constantly in a kneeling position, as, for instance, asphalt pavers (Bernhardt).

Internal popliteal paralysis, which implicates the muscles of the back of the lower leg (the flexors, the tibialis posticus) and the muscles of the soles of the foot (adductor and abductor hallucis and the interossei), interferes with the plantar flexion of the foot and with flexion and lateral motion of the toes. As a result the patients are unable to stand on tiptoe. If the interossei take part, a condition is developed similar to that which is seen in the hand and which we have described on page 352. The toes assume a claw-like position owing to the fact that the first phalanx is dorsally flexed while the second

and third are in plantar flexion. Here also secondary contractures may appear (of the tibialis anticus, triceps suræ), which give rise to a paralytic clubfoot (pes planus, pes equinus, pes calcaneus).

Paralysis of the whole sciatic makes it impossible for the patient to flex the lower leg on the thigh, to approach the

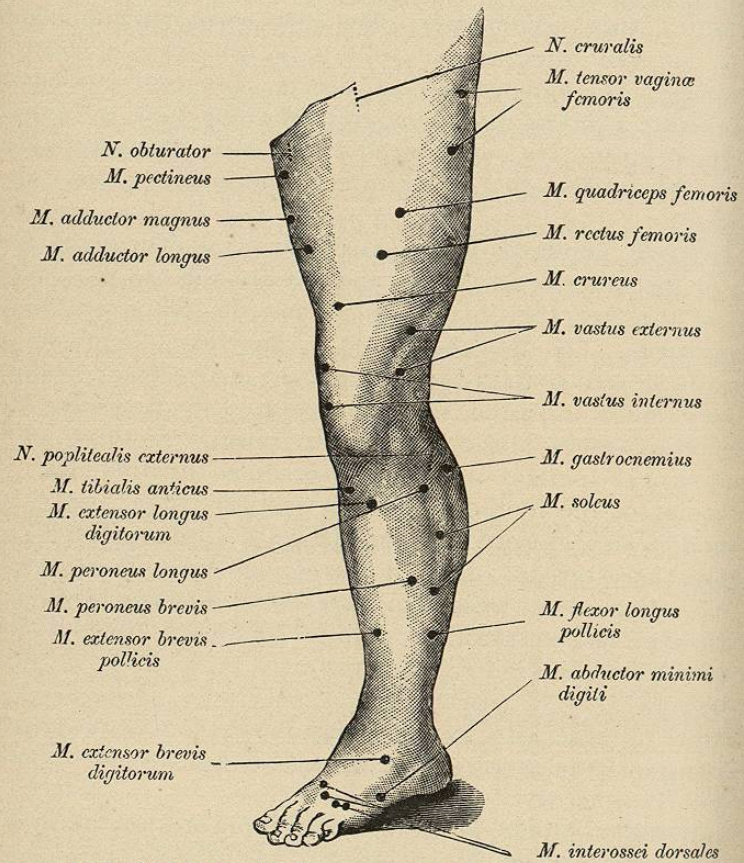


Fig. 115.—MOTOR POINTS FOR THE NERVES AND MUSCLES OF THE ANTERIOR SURFACE OF THE LEG.

heel to the buttock, and to rotate the thigh (M. obturator internus). Paralysis of one sciatic alone does not make walking absolutely impossible, because the leg fixed in the knee joint is moved forward by the muscles of the thigh, and so is used as a stilt (cf. page 226, gait of the hemiplegic). After a certain time muscular atrophies begin to be noticeable, and later become

very marked. The affection of the hip joint, which sometimes develops in the course of the paralysis, but which also at times has to be looked upon as the forerunner or immediate cause of the paralysis, produces more or less marked shortening, so that the patient with his affected lower extremity presents a picture like one of those shown in Figs. 117 and 118. This peripheral affection of the sciatic, which is to be regarded as a neuritis in the sense described above on page 331, can hardly be mis-

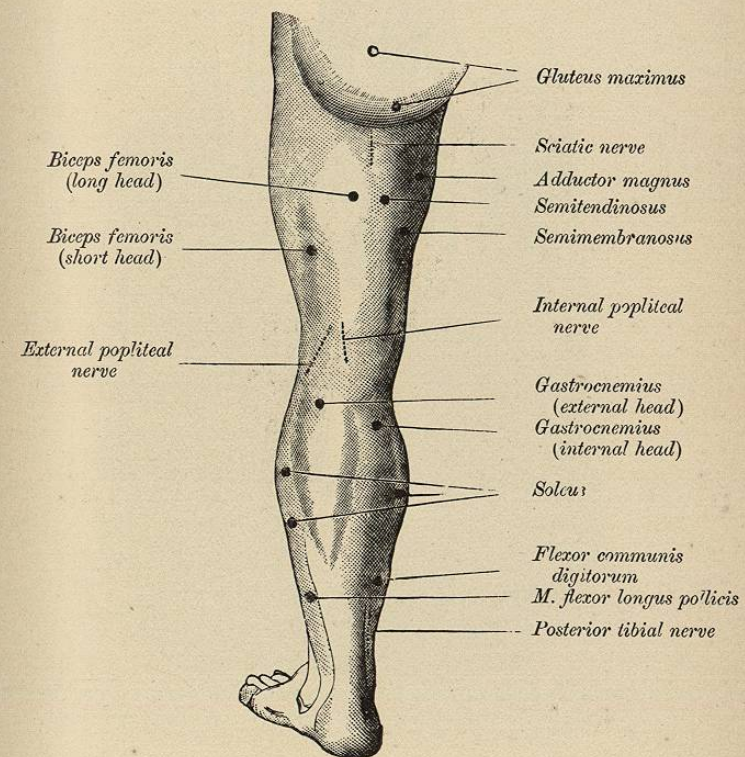


Fig. 116.—MOTOR POINTS FOR THE SCIATIC NERVE AND THE MUSCLES SUPPLIED BY IT.

taken for anything else. The difficulty in moving one leg, which may amount to an actual paralysis, may, it is true, also be the consequence of a central cortical affection—a monoplegia or monoparesis. In this case, however, the pains are by no means a prominent symptom, nor do we find—and this is the most important point of distinction—either atrophy or shortening. The differential diagnosis between cortical and peripheral paralysis has been spoken of on page 185. The

treatment of the affection is to be conducted according to the principles which we have discussed in speaking of other peripheral paralyses.

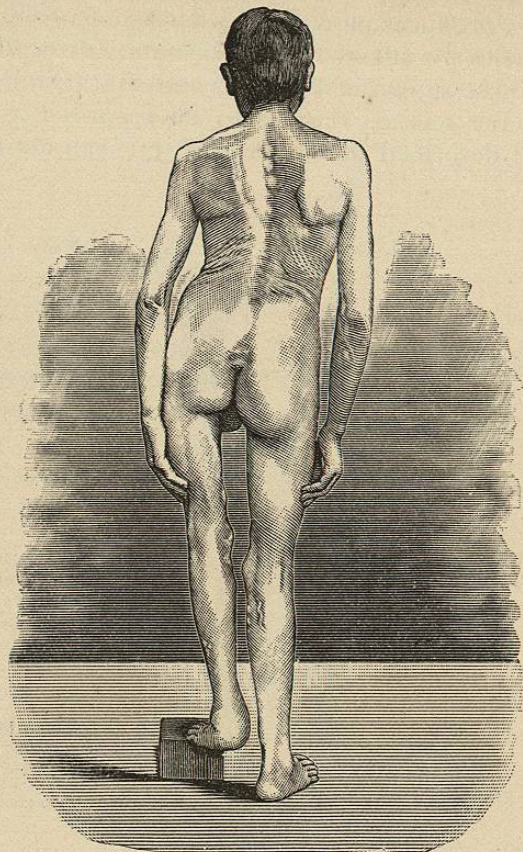


Fig. 117.—CASE OF PERIPHERAL NEURITIS OF THE SCIATIC NERVE WITH SHORTENING AND ATROPHY OF THE AFFECTED EXTREMITY (personal observation).

The observations which some years ago were published by Westphal about a periodically recurring paralysis of all four extremities have as yet no practical importance, since we do not know anything about its nature. The same may be said about the peculiar paresis of the lower leg and foot which Zenker has described (*Berliner klinischer Wochenschrift*, October 8, 1883), and which has to be regarded as an occupation neurosis. It occurs not rarely in persons who have to remain a long time in a kneeling or squatting position, and such instances have been known to occur in potato pickers. It manifests itself in a more or less pronounced sensory or motor paralysis of the lower part of one or both lower extremities.

Spasms in these muscles are rare and are therefore of but little practical importance; a case of tic convulsif in the iliopsoas has been described by Klemperer (*Deutsche Med.-Ztg.*, 1890, 86). Bernhardt has described a case in which there were spasms in the region of the *N. peron. dext. superfic.*, with

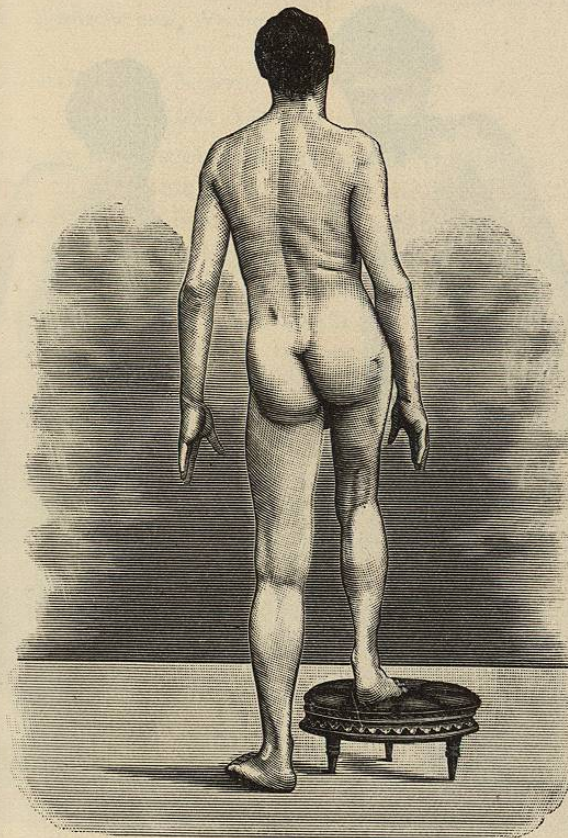


Fig. 118.—CASE OF PERIPHERAL NEURITIS OF THE SCIATIC NERVE WITH SHORTENING AND ATROPHY OF THE AFFECTED EXTREMITY (personal observation).

clonic twitchings in the peroneus longus and brevis (*Berl. klin. Wochenschr.*, 1893, 17). Schultze has described spastic conditions in the tensor fasciæ latæ (*Deutsche Zeitschr. f. Nervenheilk.*, 1892, iii). Spasmodic tonic contraction of the hip muscles has been described by Stromeyer as spastic contraction of the hip. A case of spasm confined to the quadratus lumborum has come under my notice in an hysterical woman. It is illustrated in Figs. 119 and 120. Tonic spasm of the quadriceps

gives rise to extension of the leg in the knee joint; it is sometimes known to occur in neuralgias of the joint. The very painful cramp in the calf muscles, which sometimes occurs after great exertion, sometimes also in the course of certain grave general diseases—for example, cholera—is well known.



Fig. 119.

Fig. 120.

Figs. 119, 120.—CONTRACTURE IN THE QUADRATUS LUMBORUM (personal observation).

Clonic spasms of the muscles of the lower extremities may be observed in hysterical patients. The so-called "saltatory spasm" (Bamberger, Wiener medicinische Wochenschrift, May 4, 1859), which forces the patients whenever their feet touch the ground to jump, is not an independent affection, but only a symptom of central disease. The increase of the reflexes, which is generally present, is in favor of this view. Of the treatment we shall speak in the chapter on Hysteria.

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V. Neuritis involving Several Spinal Nerves at the Same Time—
Multiple Neuritis—Polyneuritis.

Just as we have seen that several of the cranial nerves can be affected at the same time, so none the less is this true of the spinal nerves. It is, however, not many years since it has been shown that such multiple nerve affections may occur primarily, that they are often of an inflammatory nature, that they give rise to numerous symptoms which may, under certain circumstances, be misinterpreted, inasmuch as they may simulate those of central lesions. The affection is known as multiple neuritis, and, as we said, our knowledge of it is of quite recent date (Duménil, Eisenlohr, Leyden, Strümpell, Vierordt, and others). We may confidently expect that in the near future we shall obtain further information upon certain points in connection with this disease which have not as yet been cleared up.

As we have above, on page 331, devoted some time to the description of the anatomical features of the disease, it remains for us here to speak first of the symptoms of multiple neuritis. It is remarkable to note that the onset frequently resembles that of an acute infectious disease: there are fever, general malaise, dull headache, apathy, etc.; soon pains make their appearance, first in the lumbar region and the back, then in the course of the large nerve trunks. These are followed by an impairment of mobility, especially in the lower extremities, which makes the patient very anxious; the legs are heavy, they are moved only by a strong effort, and not without pain, and the patient is easily fatigued. The reflexes are diminished or lost, electrical excitability is decreased, but the pains—and this should be emphasized—usually soon abate and other sensory disturbances, paræsthesias and anæsthesias, are only exceptionally met with (Barrs, Amer. Journ. Med. Sc., February, 1889), the disorder chiefly affecting the motor apparatus. Repeatedly cases have been observed in which the motor disturbances made their appearance quite suddenly, an onset