A CASE OF NEURITIS OF POSTERIOR ROOTS : PRE-ATAXIC STAGE OF TABES DORSALIS ?

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THE following case is of interest from its unusual group of symptoms and its diagnostic difficulties :

P. R., a man, aged 44, was first seen by me in consultation with Dr. Tresidder, on March 10th, 1898, on account of attacks of intense darting pain in the left hypochondrium.

History.—The patient, a fitter by trade, said to be an unusually intelligent workman, had been healthy until the present illness, which began about a year previously. For the last three years he had been practically teetotal, though some years ago he had drunk freely of beer. He denied venereal disease, but his wife had had five miscarriages and two live children. His father had died of a stroke, his mother of cancer.

Fig. 1.—Nearly normal right root.

Present illness.—The present illness had commenced gradually with attacks of sharp stabbing pain about the left hypochondrium and left half of the epigastric region. The attacks, which had no relation to food, exertion, or any other obvious external agent, had increased in frequency and severity, and of late he had become very irritable, suspicious, and at times depressed, threatening suicide. The memory appeared good, there were no delusions, and he had no headache or other pains. Speech was normal, and there had been no sickness. He said there were often muscular twitchings in the area of pain. His wife said he walked well as a rule, only occasionally being a little unsteady in his gait. Sexual power was said to be normal, as were the sphincters. Dr. Tresidder had found his knee-jerks present a few weeks previously, but on the day of my visit we could not obtain them. The pupils were pin-point and did not react to light. There was no nystagmus, no paralysis of cranial or spinal nerves, and no hyperæsthesia. Sensation was everywhere normal except for a small patch of slight tactile anaesthesia near the edge of the ribs in the left half of the epigastrum. The possibility of there being a tumour in the spinal canal was discussed, and as the attacks continued frequent both day and night, he was admitted into hospital on March 26th.

Condition in March, 1898.—The note of March 27th confirms most of the above statements, adding that he appears of average intelligence, and is not unduly emotional. Pupils are pin-point, react to accommodation but not to light. Gait normal; Romberg's symptom absent. Right knee-jerk absent, left well marked. No ankle or rectus clonus. No muscular paralysis or wasting. The fundi were normal except for a small patch of choroiditis in the right eye. There was no anaesthesia or analgesia except a patch of tactile anaesthesia about the size of a penny to the left of the epigastrum in the area of the eighth dorsal nerve. This is the spot of the intense stabbing pains, which, however, radiate somewhat. When the attack of pain comes on, contractions of the fibres of the rectus muscle under this spot are sometimes seen. A very slight and partial anaesthesia was occasionally noted in the corresponding spot on the right side of the epigastrum, and also at the back close to the spine, in the zone of the left eighth dorsal nerve. Sphincters normal; special senses normal; thoracic and abdominal viscera normal.

The patient was kept in hospital under close observation until the end of April, mercury and potassium iodide being vigorously pushed. He had come in at his own request with the view of being relieved by operation, for which he seemed remarkably anxious. The uncertainty of the diagnosis, combined with a sense of the gravity of operations on the spinal canal, made us very loth to resort to surgery until all other

means of treatment had been exhausted. It was felt that while the anaesthesia, pains, and twitchings might possibly be due to a growth or chronic meningeal inflammation implicating the region of the eighth dorsal posterior roots, yet there was as yet no confirmatory evidence from paralysis or spasm of the legs of such a growth or inflammation, and it was also felt that certain symptoms, such as the Argyll-Robertson pupils and the absence of one knee-jerk, suggested the probable onset of a more extensive spinal lesion, such as the posterior sclerosis of locomotor ataxy. On this view the pains would be early "lightning pains," and might be expected to spread. Moreover, the alleged mental peculiarities of irritability and suspicion suggested also a cerebral degeneration such as general paralysis of the insane. However, during this stay in hospital the patient's condition hardly changed.

Fig. 2.—Atrophied left root.

The attacks of pain recurred with great frequency, often several times a day, and he would sometimes have repeated spasms of pain and twitching, each of some seconds' duration, for twelve hours together. Injections of morphine had to be used, but the nurses remarked that he often seemed to be sleeping well at night although next morning he declared he had been racked with pain.

During May he continued specific treatment as an outpatient, but on readmission in June he said the pain was so bad that life was not worth living. There was still no ataxy, the left knee-jerk was lively but the right absent, and the patches of anaesthesia were unchanged. The patch in the left half of the epigastrum could always be demonstrated, but that in the left eighth dorsal area behind was often not found, while that in the right epigastrum was very doubtful.

I now came to the conclusion that the diagnosis of tumour was extremely improbable, but that there probably was neuritis of some posterior roots, affecting mainly the eighth dorsal on the left side, and to a very slight extent the same root on the right.

This condition was obviously compatible with commencing tabes dorsalis or general paralysis of the insane. As operation was therefore not likely to cure the disease, but at most to palliate the pain, I counselled the patient to wait yet longer, and to persevere with specific treatment.

Condition in November, 1898.—In November the patient returned, clamouring to be relieved of his pain at any cost. His memory seemed good and his intellect fair, but he was very restless and excited about operation. His wife said he had been very passionate, and always swearing. The objective signs were unchanged, except that the anaesthetic areas were more distinct. Thus that in the left half of the epigastric region now stretched for 3 inches towards the axilla; partial anaesthesia could be detected in the right half on a patch the size of a penny, and on the left half there was a patch of the same size opposite the sixth dorsal spine. The pain was still referred mainly to the anaesthetic area in the left half of the epigastrum, but was said now to occasionally shoot round to the right as well, so that he felt as if constricted by a rope.

I should say that between June and November the patient had gone into the surgical wards in order to have an operation, but that Mr. Anderson had hesitated to undertake one.

Operation.—However, Mr. Anderson and I consulted on the case, and thought that section of one or more roots might relieve his sufferings if it could not cure the disease. The serious nature of the operation having, therefore, been fully explained both to the patient and his family, on November 26th Mr. Anderson did a laminectomy and exposed the cord at the level of the sixth, seventh, and eighth dorsal roots. Nothing abnormal was seen on the cord or its membranes, but the eighth left posterior root was distinctly thicker than the others. Pieces were cut out from the seventh and eighth roots on both sides, those from the eighth roots being placed in osmic acid for microscopical examination. The result of the operation was not satisfactory, as, in spite of antiseptic syringing, pus formed in the wound, fever set in, and six days later the patient died.

Necropsy.—The spinal cord showed no definite tracts of sclerosis, but there were diffuse patches of softening, especially near the site of operation. There was no tumour or meningeal thickening, except fresh granulations at the wound, and the remaining nerve roots looked healthy to the naked eye. On opening the skull, the dura mater was found to be tough and rather thick, and the pia arachnoid was thickened and opaque in patches. There were no other naked-eye changes.

Microscopical examination of the removed posterior roots showed excess of fibrous tissue and a great reduction in the number of nerve fibres in the left root, while in the right there was a very slight decrease of the normal fibres. (See photographs.)

Sections of the spinal cord stained by Weigert's method or by Delafield's hæmatoxylin were examined at various levels. All the anterior roots were found to be normal. In the lumbosacral region a posterior root on one side showed a few degenerate fibres, while that on the other was normal. The posterior columns here showed some quite recent softening, doubtless a sequel to the operation, but I think there was a very slight chronic sclerosis also in the postero-external columns.

In the lower dorsal region the roots on both sides were normal, and no distinct sclerosis was seen. About half an inch below the site of operation the root on one side showed degenerate fibres, the others being healthy. At the level of the eighth dorsal nerve the cord was somewhat disorganised from recent softening. The posterior root on one side showed but few healthy fibres, on the other was nearly normal. At the level of the fourth cervical nerve the roots were absolutely healthy, and there appeared to be a very small amount of sclerosis in the postero-internal columns, though here, as elsewhere, the recent softening of the posterior surface of the cord obscured the picture.

Sections of the cerebellum and left occipital lobe showed no morbid changes.

Reviewing the case as a whole, I think we must conclude that the pathological process was closely akin to that of tabes dorsalis; but that instead of a degeneration of a large number of posterior roots in the lower part of the cord leading to posterior sclerosis, in this case only a very few were picked out, one especially—the left eighth dorsal—undergoing degeneration of nerve fibres with formation of fibrous tissue, the growth of which caused the intense pains and—reflexly—the contractions of the rectus muscle.

The diagnosis was thus fairly accurate, and we must regret that treatment was not more successful. It is, however, the general experience that the deep wound produced by laminectomy in a muscular man is difficult to keep aseptic, and I think it probable that deficient innervation may in this case have diminished the healing powers of the tissues, just as in cases of true tabes dorsalis the cutting of a corn may lead to a perforating ulcer.

THE PRINCE OF WALES'S HOSPITAL FUND.—In view of the falling-off in the financial support of the hospitals of London in consequence, it is surmised, of the war in South Africa, efforts are being made to augment the income of the Prince of Wales's Hospital Fund. The executive committee is issuing an appeal for subscriptions to the fund to counteract the effect of this falling off. It is suggested that in order to help the hospitals to continue their work at least £25,000 additional should be contributed before December 15th next. The sum available for distribution to hospitals in 1899 was £41,000 as compared with £32,500 in 1898, and £56,826 in 1897. Of the total amount accruing to the fund in 1899 £1,000 was received from the League of Mercy.

AN EPIDEMIC OF PERIPHERAL NEURITIS AMONGST BEER DRINKERS IN MANCHESTER AND DISTRICT.

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WE are only too well acquainted with so-called alcoholic peripheral neuritis in Manchester, but lately there has been such an extraordinary increase in the number of these cases among beer drinkers that there is in such people a veritable epidemic, the symptoms varying, however, as will be seen, from those generally present in alcoholic neuritis.

I began to notice about three months ago that a most unusual number of patients presenting themselves at the out-patient department of the Manchester Royal Infirmary complained of numbness and sensations of "pins and needles" and burning in the hands and feet. Some of these I diagnosed as erythromelalgia, but others were apparently cases of alcoholic neuritis, with the typical tenderness of the muscles, together with motor weakness. At the same time I found in my medical wards at the Manchester Workhouse Infirmary a very large number of cases of "alcoholic neuritis." At last there could be no further doubt that a distinct epidemic existed, for besides several hundreds of cases which have been under my care I found that other observers, including medical men in Salford and surrounding districts (such as Heywood) had been struck with the frequency of these cases. Dr. Dreschfeld had noticed it, and had been struck with the peculiar pigmentation present; Dr. Williamson told me that nearly half of the patients in the out-patient department of the Ancoats Hospital, Manchester, showed signs of peripheral neuritis, and Dr. Brooke had remarked to me on the great frequency during the last three months of peculiar skin eruptions (described below) at the Manchester Skin Hospital. At my own out-patient department at the Manchester Royal Infirmary fully one-fourth of the cases have shown the symptoms, and though I have not been able at present to get the exact number who have been diagnosed as "alcoholic neuritis" during the last three months at the Manchester Workhouse Infirmary, yet the actual number present in hospital to-day (November 17th, 1900) in the acute wards only is 65 (35 women and 30 men) out of a total number of patients in these wards of 284 (104 women and 180 men). This is about 23 per cent. of the cases, 30 per cent. being women and 15 per cent. men. All these 65 are, of course, cases of so severe a character that they have had to be put to bed; they do not include any of the much more numerous milder types, who can be treated in an out-patient department.

Women are affected more frequently than men, and all the patients are beer or porter drinkers, some taking spirits also, but beer was invariably the favourite and usual beverage. Although it is difficult to get to know the exact amount of beer taken a day, yet I am convinced after careful inquiry that in some at least not more than four glasses a day have been consumed, though in others larger quantities had been taken. The beer taken by these patients has not come from any particular brewery, the names of five different brewers having been already given to me by patients as supplying their favourite drink; other patients drank any beer they could get irrespective of the brewery from whence it came.

SYMPTOMS AND PHYSICAL SIGNS.

In answer to the usual question, "What is the matter with you?" the out-patients have given such answers as "pains in the feet and hands," "tingling and feeling of pins and needles in the fingers and toes," "burning in the feet," "pains in the limbs, with loss of power in the legs and arms," "rashes on the body with much itching" (peculiar forms of erythema). I have also noticed during the last three months quite an unusual number of cases of herpes zoster, certainly more than we commonly see at this time of the year.