END RESULT OF OPERATION ON ULNAR NEUROMA

By James B. Ayer, M.D.

Dr. Ayer showed a case of ulnar paralysis which he reported some months ago in the *Boston Medical and Surgical Journal*, 1915, CLXXIII, 585-589. At that time there was a very slight return of function, one year after operation. The increase in function in the second year has been marked. The patient now presents very little atrophy, no disorder of sensation, no muscular weakness, and only slight quantitative changes in the electrical reactions. A brief summary of the case is as follows: May, 1909, small cut just above elbow; July, 1909, seen by visiting neurologist at the Massachusetts General Hospital with note "apparently no nerve involvement"; October, 1909, anesthesia, pain, weakness, RD, of ulnar nerve distribution; January, 1910, operation, nerve found largely cut across, ends approximated, otherwise not disturbed from scar tissue; February, 1914, no improvement following operation, and painful mass in the scar; operation, excision of old scar, ulnar freed; May, 1914, another tumor in scar which soon went away; February, 1915, characteristic ulnar deformity with very little return of function. It is evident that there has been a marked improvement in two years, while the return of function in one year was very slight.

Dr. Paul said: If he remembered rightly, the whole nerve was not cut in the original injury. Probably there was always some function. He doubted whether the restoration is complete even now.

Dr. E. W. Taylor, Boston, could verify Dr. Ayer's statement that function has very largely returned in this patient. He also remembered that a year ago there was still so considerable a loss of power and sensation that further return seemed at least unlikely. Cases carefully studied as this has been are of distinct value in reaching practical conclusions regarding nerve regeneration. Of the two theories each of which has its enthusiastic advocates, a case of this sort would seem to uphold the idea of regeneration only from the proximal stump. If regeneration occurred also in the periphery, one would certainly expect the recovery to be very much quicker, occurring in the first year.

TWO CASES OF EPIDURAL ABSCESS

By William J. Mixter, M.D., and Walter E. Paul, M.D.

Dr. Mixter reported the following case:

F. H., age 17, seen February 18, 1916. Family history and past history negative except for furunculosis of the face since adolescence. Pain in the left shoulder and left side for two weeks. Stiffness and weakness of both legs for five days. Four days before seen had a typical spastic paraplegia with a temperature of 101°. When seen by Dr. Mixter he had a temperature of 105.2°, a white count of 30,000, paralysis of legs, anesthesia up to VII-IX dorsal level, priapism, retention and constipation. Lumbar puncture, clear, not under pressure, slight coagulum on standing. Laminectomy III-VI dorsal, showing an abscess below the epidural fat outside the dura. No evidence of focus of infection seen. Patient died a few hours after operation and there was no autopsy. Culture showed pure culture of *Staphylococcus aureus*. The abscess seemed to have stopped in the epidural fat much as it does in perirenal fat from furunculosis. It seems that many of these cases have been dismissed when there might be a chance to do something surgically.

Dr. Paul reported the case of a 43-year-old man who received a slight wound from a shingle scratching the right breast near the nipple. An abscess developed, broke, and healed in about five weeks.

Three weeks after the injury to the breast pain developed in the left

back with pleurisy, and there was a temperature of 102° for several days. The general condition improved but the pain continued. Some thirty-four days after the wound he entered the Quincy Hospital under Dr. Hunting. He had pain in his back, some weakness of his legs with fever. Suddenly, after four days in the hospital, he found he could not use his legs and he had to be catheterized. There was pain and stiffness of the back. The knee jerks were present and there was some movement of the toes only in the lower extremity; so the paraplegia was not absolute. Sensation was not lost but there was hypesthesia below the seventh dorsal level. Poliomyelitis was considered likely but a transverse myelitis could not be ruled out.

The spinal fluid was yellow and sterile, and of low cell content; Dr. Ayer was of the opinion it was a pressure fluid.

Two days after Dr. Paul's visit there was a complete sensory and motor paraplegia and death occurred forty-six days after the wound.

The post mortem disclosed a prevertebral abscess and an intraspinal but extradural purulent collection compressing the cord for several segments, with the chief pathological focus at the fifth segment.

Apparently the infection found its way from the breast abscess along the rib to the prevertebral area and the intravertebral space. The infecting organism was *Staphylococcus albus*.

Dr. F. T. Lord said the case first reported was seen by him in consultation on the seventeenth of February, the day before he was seen by Dr. Mixter, and presented an interesting diagnostic problem.

The patient had then been ill for sixteen days, complaining throughout of headache and pain in the left shoulder, the left side of the neck, the axilla and the back between the shoulder blades. Fever was first noted on the third day and had been intermittently present since. He had vomited three days before Dr. Lord saw him.

Involvement of the lower extremities first became manifest four days before with a sensation of pins and needles in the legs and feet, with rapid increase of the disturbance to weakness and spasticity three days before and a termination in complete motor paralysis on the day of Dr. Lord's visit.

Examination showed complete flaccid paralysis of both legs, with entire absence of sensory perception throughout the right leg and the right side of the trunk as far upward as the level of the sixth rib in the mammillary line. Over the entire extent of the corresponding area on the left side, touch, pain and temperature perception was present but diminished. At the upper level of the sensory disturbance was a girdle of cutaneous hyperesthesia. The knee jerks were present and equal. The plantar reflex was normal. Muscle sense was impaired in both legs. The neck was stiff and there was a double Kernig.

The clinical picture was that of a myelitis of the compression type. The fever and leucocytosis suggested a suppurative process in explanation of the findings and the negative spinal fluid made it seem probable that pus might be found within the spinal canal and outside the dura.

It was unfortunate that Dr. Mixter's courageous surgical intervention did not accomplish more than the establishment of the diagnosis.

Dr. J. B. Ayer said the lumbar punctures in these cases were not at all negative as they both showed spontaneous coagulation, greatly increased proteins and a low cell count. One fluid was yellow. This is what the French speak of as "coagulation massive et xanthochromie," and it means pressure on the cord. The yellow color or xanthochromia may be pale or deep, the fluids contain fibrin and will coagulate, and show a large amount of protein. They are non-inflammatory as there are only a few cells. This type of fluid is probably pathognomonic of pressure upon the spinal cord. The literature on this subject has largely been French or German and only one or two cases

have been reported in American literature. The gold sol reaction seems to be the least helpful in these cases. In Dr. Paul's case at autopsy pus was found at the first cut over the spines of the vertebræ. It had infiltrated the back muscles and was found over the dura compressed into the shape of the canal. The paravertebral glands were destroyed and the infection probably traveled in the intercostal lymphatics from the breast to the back.

THE TREATMENT OF PARESIS BY INTRAVENTRICULAR INJECTIONS OF DIARSENOLIZED SERUM, WITH PRESENTATION OF CASES¹

By P. C. Knapp, M.D.

Dr. Knapp stated that he had had experience of about five hundred intraspinal injections with Dr. Sanborn in over a hundred syphilitic nervous cases in the last three years and that he was an ardent believer in this form of treatment. His success had been better in the spinal cases than in the cerebral cases. Many of the tabetic cases improved remarkably but the paretic cases did not do so well. The intraventricular treatment first proposed by Dr. Graeme Hammond and Dr. Sharpe he had had an opportunity of seeing at the Post-Graduate Hospital. Dr. Knapp then spoke of the experimental work of Goldman and Symmers and described briefly the surgery of intraventricular injection. Two cases were shown. The first was a very hopeless case of paresis, aged forty, extremely demented, with symptoms for one and one half years. The Wassermann in the blood and spinal fluid was triple positive but in the ventricular fluid was negative. He was given 0.6 gm. of diarsenol and serum into the ventricle. Nine days later he was better and again given 0.6 gm. His pupils which did not react to light before now react promptly. He is so much better he is able to work four days a week. The patient was shown and Dr. Knapp said that he would have his third injection in two weeks more.

The second case was a case of very marked paresis who had had two intraventricular injections and who was markedly improved. His pupillary reaction had also returned.

Dr. Knapp said that he did not feel that we could draw much inference from only two cases under observation so short a time, but that he could say that the operation gave no bad results and that there was certainly a very striking improvement in the physical signs. We do not often see pupillary reactions come back and knee jerks return. It would seem as though it were a very hopeful method of treatment.

THE MENTAL EXAMINATION OF REFORMATORY PRISONERS

By G. G. Fernald, M.D., Concord, Mass.

The subjects of this examination were the prisoners at the Massachusetts Reformatory from sixteen to twenty-four years of age. This age is at the close of the formative period and is most important in mental development. It is noted that after residence in the reformatory the prisoners are more teachable and introspective. The psychonological interview is therefore in the later part of their period of incarceration. Sometimes more than one interview takes place. The old method of examination by the uniform application of tests has been abandoned for the clinical psychiatrist's method. The reasons for this change are: (a) too time consuming, (b) tests not well adapted to all subjects, (c) did not reveal character defects, (d) tests too impersonal. The examination is based on an outline advocated by Dr. W. E.

¹ Reported in Boston Med. and Surg. Jour., 1916, CLXXV, p. 24.