

## REPORT UPON A CASE OF PROGRESSIVE MUSCULAR DYSTROPHY, WITH ESPECIAL REFERENCE TO IMPROVEMENT BY TREATMENT.

Dr. A. WIENER presented a case of this kind with the idea of showing that such a case could be improved by treatment. From a review of the literature, he said, that it was apparent that the tendency now was to bring the disease, formerly divided into spinal and myopathic forms under one head. The patient to be presented this evening, he said, had been exhibited two years ago before this Society. At that time he had been twenty years old, and he had been perfectly healthy up to May, 1892, and had not experienced the slightest difficulty in performing any muscular movements. The first indication of difficulty was in May, 1892, when he began to suffer from vague pains in the region of the spleen and liver on considerable muscular exertion. Shortly after this, difficulty in going upstairs and in walking was observed, and soon atrophy of the lower extremities and back was observed. Finally, the muscles of the neck and face became involved. The patient denied alcoholism or syphilis, and stated that his health had been excellent. He had noticed while engaged in athletic sports that the muscles of the upper extremities quickly became fatigued. In 1893, there was no distinct abnormality about the formation of the skull. His general appearance was that of a person very much emaciated, and there was great difficulty in walking and lifting the limbs. On attempting to stand upright, he exhibited a marked lordosis. When lying down, it was impossible for him to turn over. The muscles were soft and covered with redundant skin. No vasomotor or trophic disturbances were discovered. The deep reflexes were absent on both sides. The spinal column was in no way tender on percussion. Examination of the muscles showed a marked paresis. The muscles of the forearm and hand appeared normal. Mechanical excitability was very much diminished. Electrical examination gave quantitative changes, but no reaction of degenera-

tion. The abdominal muscles were only slightly affected. The orbicularis oris and palpebrarum were the ones chiefly affected about the face. A microscopic examination of a piece of deltoid muscle showed simple atrophy of the muscular fibres, with cell infiltration in the muscle and between the fibres. No hypertrophy of the fibres could be found, and there was no evidence of fatty deposit. The small blood-vessels were filled with blood, and the walls with round cells. The lack of all sensory disturbances left no doubt that this was a case of the myopathic type. No improvement was noticed under the usual tonics and electrical treatment, so it was decided to try the effect of physical exercise carried on daily to the point of moderate fatigue. From half an hour to one hour were devoted to exercises with dumb-bells, Indian clubs and the use of a health-lift machine. There was evidence of very marked improvement in every way. Quite lately he had been able to ride many miles a day on a bicycle. Some of the muscles still showed atrophy. The improvement was especially marked in the muscular movements and in the partial return of the contour of the diseased parts. The speaker said he did not think such treatment would be efficacious in cases developing in infancy, but where there had been a good development prior to the appearance of the disease, this plan of treatment offered a good prospect of success.

Dr. G. M. HAMMOND said, that the heart symptoms in this man were very much like those seen in individuals who had received too much physical exercise at a time when the heart was feeble. This man's heart was dilated and hypertrophied, and it was possible that this was due to a loss of muscular tissue as a part of his disease. He asked if Dr. Wiener thought the arrest of the atrophy might not have been spontaneous and independent of the physical exercise. He had himself seen one or two less extensive cases of dystrophy in which the atrophy was recovered from without any treatment. In one of these cases the atrophy was limited to the muscles of the thumb in both hands.

Dr. WIENER said, that the heart muscle was probably similarly affected as the other muscles and that the general improvement must be accounted for as due to physical exercise, as the history of the case plainly and distinctly shows.

Dr. C. L. DANA said, that he thought there was a class

of cases of progressive muscular dystrophy brought on by excessive muscular work when the person was immature. This form of dystrophy seemed to him to have a different course from the ordinary types of dystrophies. He had seen cases in which he believed the lesion was in the muscles, and in which the course and clinical symptoms were those of dystrophies occurring in acrobats and gymnasts. In these cases, the symptoms usually progressed steadily up to a certain point, and then there was an arrest of the process, and sometimes a very decided improvement. This clinical distinction should be borne in mind in estimating the value of the treatment pursued in this case. He doubted very much if such treatment would have much effect on the more usual form of atrophies. In the cases to which he had referred, the upper arm, shoulder and back were usually affected.

Dr. SACHS said, that the case seemed to him of great importance. He was perfectly familiar with the class of cases referred to by the last speaker—the localized atrophies and those due to excessive muscular exercise. The case under discussion, however, did not belong to this category. When first presented to the Society two years ago, the involvement of the facial muscles was a prominent feature, and the improvement observed had been in the muscles other than the facial ones. There was, of course, room for doubt as to the value of this particular treatment, yet it should be remembered that no improvement had been observed under other methods, but was prompt and decided under physical exercise systematically carried out. The original diagnosis of progressive muscular dystrophy was without doubt correct, and the result of treatment was certainly unique.

Dr. JOSEPH COLLINS said, that where the proton was diseased it should be evident that no amount of mechanical treatment would be of service, but if the form of progressive muscular atrophy were acquired, then treatment including exercise should be of some advantage. He thought, therefore, the case was very instructive. It was begging the question to infer that the improvement was independent of the treatment. He believed this to be a case of progressive muscular dystrophy of the acquired type, no evidence having been brought forward to show that it was either familiar or hereditary, and that the improvement was not due to the treatment.

Dr. HAMMOND said, that the man had been an athlete, and a runner, and yet had developed the muscular dystrophy; hence he could not understand why if the muscular atrophy had developed during exercise, it should be arrested and improved by a resumption of systematic exercises.

Dr. HERTER said, that the case was evidently one of the family form of progressive muscular dystrophy, and he felt that the systematic exercise must have had a beneficial effect in bringing about this change. One should not, however, draw too positive conclusions from one or two cases. The case was a most interesting example of what could be done by modifying favorably the nutrition of a part.

The PRESIDENT said, that as far as the distribution of the dystrophy was concerned we certainly found cases in which it was exactly similar, and yet we could not trace the exact etiological factor. Where the hereditary element was not present, it was possible that there was a better chance for improvement under treatment. He thought that we were warranted in trying systematic physical exercise, at least in cases in which the hereditary factor was not especially prominent.