

Dr. R. H. Sayre had noticed that some of the patients exhibited were able to move the heel independently of the long flexor of the great toe, and he supposed that as the paralysis had been only partial, the shortening of the tendon had enabled the weakened muscles to act to better advantage. Such cases ought to be much benefited by the persistent use of massage and galvanism, and they present a much more favorable field for operation than those in which the paralysis is absolute; for, under such circumstances, shortening of the tendon only results in the formation of an unyielding fibrous cord.

The progress of the deformity when untreated must depend largely upon the amount of damage originally done to the spinal cord. He had seen patients with very marked cavus, who, instead of walking on the bottom of the heel, walked upon the posterior portion, which had in consequence developed an elastic buffer. He had hesitated to interfere, as such cases do not hold out much hope of improvement, and the gait is much better than the appearance of the foot would lead one to suppose was possible.

As regards treatment, he favored the use of a brace similar to the one described by Dr. Gibney, or with an elastic spring to take the place of the gastrocnemius. Such an appliance will give the patient comfort, and enable him to move about with less of a wooden tread.

The results shown in the cases this evening are exceedingly good, but he was surprised at the amount of stretching which the cicatricial tissue had apparently undergone. The usual plea against tenotomy is that the resulting scar tissue tends to contract and reproduce the deformity. This, he thought, was a mistake; for the tissue obtained after a subcutaneous tenotomy is not at all comparable to that obtained in an open wound by the process of granulation. There should be no more secondary contraction after a non-suppurative subcutaneous tenotomy than occurs in tissues after aseptic healing by blood-clot. Whatever elongation has occurred in the cases shown this evening in all probability took place, not in the cicatrix, but in the muscular fibres above, the paralyzed muscle being constantly antagonized by a normal muscle, and thus gradually stretched out.

Dr. Ridlon said that one of the patients ex-

hibited had been seen by him last summer, and he had then strongly favored tenotomy on account of extreme equinus which then existed; but he saw that the foot was now in good position.

In the mechanical treatment of this condition, he had been accustomed to employ the apparatus with the "rubber muscle" at the back; but since Bernard Roth of London published the description of his brace for drop-toe with tempered spring at the back of the leg, he had considered that such an instrument, having a spring running from the garter line with a steel plate to the ball of the foot, was much better than those ordinarily in use.

Dr. H. W. Berg was inclined to take a gloomy view of these cases of polio-myelitis, yet he did not consider them entirely beyond help from neurological treatment. Were it conclusively proven that the nervous supply of the posterior group of leg muscles, for instance, is entirely derived from one level of the anterior gray horns in the spinal cord, or from one series of cells in the spinal cord, it is obvious that if these cells had been entirely destroyed, any electrical treatment must of necessity be useless as regards restoring power to the limb. But it has not been proven that the nervous supply is derived in this way, and it is barely possible that a few cells, giving rise to fibres of any one nerve, have escaped the inflammation. The number of these nerve fibres remaining may be so small as to escape notice in an electrical examination, and yet be sufficient to exert an important influence upon the movements of the foot. Hence, if these healthy nerve fibres and muscle fibres to which they are distributed be stimulated by a galvanic current, they will take on a vicarious action under the irritation of the galvanic current, and will cause even in old cases of poliomyelitis, as he had frequently observed, a decided improvement in the power to extend the foot. In his experience, fully ninety-five per cent. of the cases had been relieved, although none were cured. He did not think that even the most enthusiastic operators claimed that they did more than relieve their cases. A large number would certainly be benefited by the operation described by Dr. Gibney; but any operation including simply the soft tissues was hardly a philosophical one,