while he was convalesing from the effects of this accident that I examined him in the Allegheny General Hospital.

Examination, March, 1897.—Mentally he is bright enough, although there is the "wooden" expression on the face. There is no disorder of speech.

Prolonged efforts bring on a very marked, coarse tremor. He picks up a pin with difficulty and cannot button or unbutton his vest. He could do so, he states, before the accident.

He is not able to raise the left arm to the horizontal position, and the right one he can raise to only a little above the horizontal. There is marked atrophy of the muscles of the shoulder-girdle and of the upper arm, as shown in the accompanying photograph. There is localized wasting of the posterior portions of the deltoids. There are marked fibrillary twitchings in these wasted muscles. The grasp of the hands is feeble. There is no spinal curvature, except a moderate accentuation of the normal posterior curve. Both knee-jerks are greatly exaggerated, and marked ankle-clonus is present. Both elbow and wrist-jerks are exaggerated. A very marked wrist-clonus is present, especially on the right side.

Tactile, heat, cold, and pain senses are all diminished, in both hands and forearms. This diminution coincides in areas which are as follows: On the left side it includes the entire hand, extending almost up to the elbow on the flexor and inner surface, and to the middle of the upper arm on the extensor outer side. On the right side it extended along the flexor inner surface to the elbow. On both sides the diminution of sensation was most marked in the hands, and faded out gradually at the upper limits named; and it was more marked in the left than in the right. Tactile and pain senses are about equally diminished, but are nowhere absent. Of all forms of sensation the diminution is greatest for heat and least for cold. There is a very marked difference in his appreciation of hot and cold objects. There is a moderate diminution of muscular sense in the hands and arms.

There is a very marked hyperæsthesia at the back of his neck, from the occipital protuberance to the seventh cervical vertebra.

His visual fields are normal; both pupils react normally to light and accommodation.

His gait, although somewhat spastic, is fairly good.

Remarks. — The progressive muscular atrophy of the shoulder-girdle with fibrillary twitchings and the spasticity with exaggerated reflexes and the clonus, taken alone, would point to amyotrophic lateral sclerosis. Indeed, this diagnosis at first sight seems to me the correct one, as it had to Dr. Brown, the *interne* of the Allegheny General Hospital, who had examined the case before me.

But the long existence of the disease (for eight years) without any appearance of bulbar symptoms, the history of severe pain, and the presence of marked disorder of sensation of all kinds, in the hands and arms, were each argument against this diagnosis, and taken together make an argument so strong, in my opinion, as to overthrow it altogether.

The diagnosis of syringomyelia rests upon sensory symptoms (pain) at the onset; the progressive muscular atrophy and palsy with fibrillary twitching of the shoulder-girdle and the diminution of all forms of sensation in the hands, and frequent blistering of the fingers. While dissociated anæsthesia was not present, still it is a significant fact that the heat sense was more impaired than any other, and tactile sense least of all; so it can be said that the sensory phenomena present approached those known as dissociated anæsthesia.

If the case be looked upon as one of syringomyelia, three features present themselves to render the case an atypical one, viz.: the very severe nature of the spinal pains at the onset, absence of true dissociated sensation, and the presence of such very marked exaggeration of reflexes with clonus.

The symptoms presented by the patient bear certain resemblance to those seen arising from tumour of the cord and progressive spinal muscular atrophy; but certain points present themselves by which these diseases may be excluded. Some of these have been mentioned. The real difficulty in diagnosis, after all, lies in deciding between pachymeningitis hypertrophica cervicalis and syringomyelia. The similarity of these two affections has already been pointed out by Bramwell,* Lloyd,† and others.

The great severity of the initial pains, the impairment of tactile along with other forms of sensation, the rather uniform distribution of the atrophy, the marked exaggeration of reflexes, all favour pachymeningitis hypertrophica cervicalis rather than syringomyelia.

* "Diseases of the Spinal Cord," p. 415.
† "Nervous Diseases, by American Authors," p. 538.

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