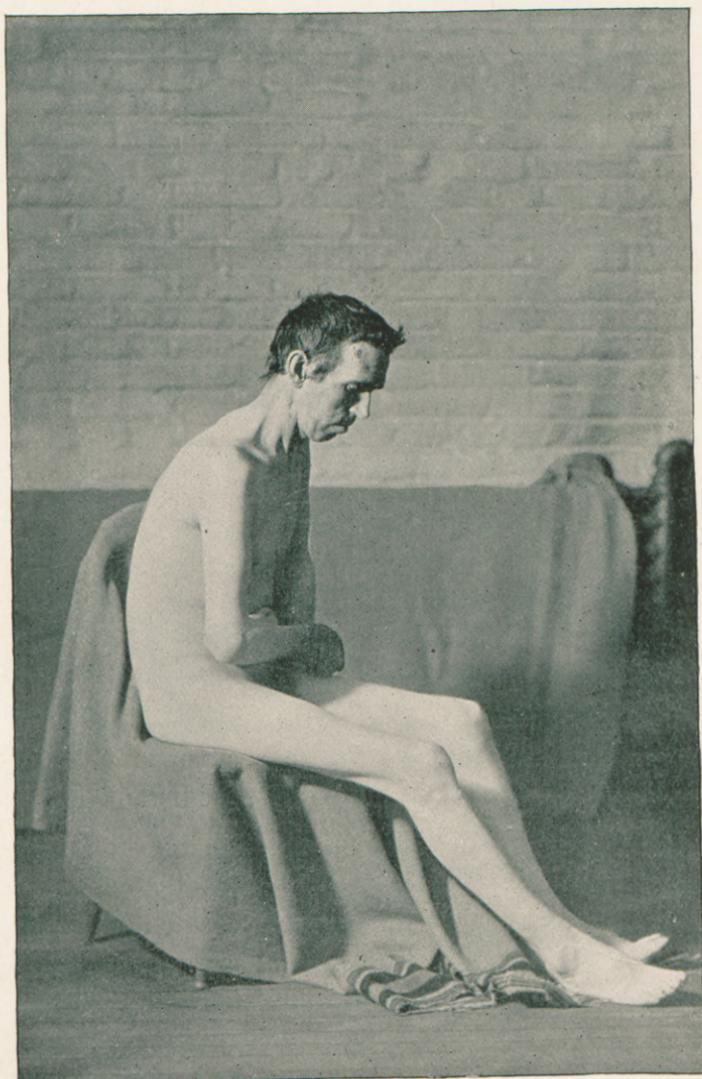


DERCUM (F.X.)

A case of hemiplegia ~~xxxxx~~





Aphasia, hemiplegia, and atrophy of paralyzed side.

A CASE OF HEMIPLEGIA ASSOCIATED WITH ATROPHY OF THE MUSCLES OF THE PARALYZED SIDE, AND ALSO WITH A PARTIAL MOTOR APHASIA, THE PATIENT HAVING A GOOD MEMORY FOR SUBSTANTIVES, BUT AN ABSOLUTE LOSS OF ALL OTHER PARTS OF SPEECH.

BY F. X. DERCUM, M.D.

THE following case is placed on record because of the unusual features presented in the atrophy of the paralyzed muscles and by the aphasia. It is briefly as follows:

R. J. H., male; aged forty; married; nationality, Scotch; occupation, engineer; admitted to the Philadelphia Hospital, November 24, 1892.

Family history.—Negative.

Previous history.—Has never been sick in bed except when he had a carbuncle on his neck some six or eight years ago. Has used alcohol moderately; was married eighteen years ago; had five healthy children, one of them dying of diphtheria; wife had two miscarriages. He himself has had rheumatism and malaria at various times, and eight years ago contracted syphilis. Four years ago he had gonorrhœa. About a year ago he was rendered unconscious for several hours by smoke in a burning building.

History of present disease.—About eight months ago he began to lose power in the right arm and leg. He noticed the weakness, and for several days stopped work, and after this made an ineffectual attempt to work again, but was again obliged to desist. A night or two later he had an apoplectic stroke; lost consciousness. The next day realized that he had lost completely the use of the right arm and leg. He was also unable to talk; could not utter a single word. He was confined to his bed for some six months.

He was finally able to be about in a rolling-chair, but there was never any return of power in the paralyzed side. After several months he again recovered a little of the power of speech, and this ability has slightly increased up to the present time. On attempting to read he found he was unable to do so, and this inability persisted for some seven or eight months. At times he suffered severely from headache.

Present condition ; Motor symptoms.—There is marked hemiplegia of the right side, involving also slightly the lower third of the right face. The loss of power is almost complete, the patient being utterly unable to walk. Marked contracture is also present, the leg being rigid and extended, the forearm flexed upon the arm with marked contracture of the fingers. There is in addition marked atrophy of the deltoid, supra- and infraspinatus muscles, some wasting of the arm and forearm, and excessive wasting of the thenar and hyperthenar eminences. Fibrillary contractures can be elicited by tapping on the supra- and infraspinatus muscles. The knee-jerks are excessively exaggerated, as is also the elbow-jerk, while a blow upon the tendon of the biceps produces a marked clonus of the entire arm. The leg presents marked rigidity with tendency to extension, and there is also present some atrophy of the thigh and leg. The right thigh is $14\frac{1}{2}$ inches, left thigh $15\frac{1}{4}$ inches; the right calf 11 inches, the left calf $11\frac{1}{2}$ inches. The atrophy of the limbs is well shown in the cut. There is no anæsthesia in either leg or arm. In the right hand, however, the patient makes constant errors of location, both as regards the fingers touched, and invariably refers the impression to a point one or two segments above. No loss of temperature sense. Pupils equal and respond to light. No other eye symptoms. Tongue protruded somewhat towards the right side. Vessels somewhat atheromatous. No heart murmurs. Second sound, however, accentuated. Examination of the urine negative.

His aphasia presents the following peculiarity. When asked to detail the history of his early life, he simply strings together a number of substantives, such as “school, marbles, farm, errands, engineer, Glasgow, Philadelphia.” He is apparently unable to recollect any other parts of speech, with the rare exception of the words “was” and “make.” The latter he used but once or twice in the course of twenty minutes’ conversation. When asked to describe how an engine is to be run says: “Fire, boiler, steam.”

When asked to be more explicit, he uses pantomime to indicate that he cannot. When asked, "Could you show me how to run an engine?" answers, "Yes," with emphatic gesture. Further conversation with him proves that his knowledge of substantives is quite good. He correctly names all objects that are held up before him; also, with eyes closed, recognizes objects by sound, as, for instance, correctly names a watch on hearing its ticking, or a bunch of keys on hearing them shaken. Understands all that is said to him. Does not apparently comprehend readily what is written. Is able, however, to pick out readily the substantives and to pronounce them. On asking him to write with his left hand, he does so successfully as regards substantives, but is utterly unable to write words of any other part of speech. He is utterly unable to write a complete sentence. The result is the same whether I dictate a short sentence to him, or whether I give him a printed sentence to copy. He is able to write the substantives, but none of the other words.

This condition persisted with little change from week to week, until finally on February 1st he passed from under my observation. Recently, however, June 27, 1893, I have again examined him. His physical condition presents little or no change; however, the aphasia has undergone a slight improvement. He has acquired a few more verbs, such as "can" and "will." On the whole, however, the progress made has been slight.

The above case is interesting for two reasons; first, because of the unusual atrophy accompanying the hemiplegia, and also because of the peculiar character of the aphasia.

Cases of hemiplegia associated with atrophy of the paralyzed muscles are rare. It will perhaps be useless to speculate regarding the cause of this atrophy, but the fact that secondary degeneration has been so marked would suggest that the degenerative change had for some reason involved the cells of the anterior cornua of the gray matter of the cord, just as we know happens in that other chronic disease of the motor tract, amyotrophic lateral sclerosis. Regarding the initial lesion, it is very probable that it was due to a thrombus or embolus rather than to a hemorrhage. The marked and persistent character of the hemiplegia, with the absence of all recovery, together with the degeneration of the blood-vessels and the accentuation of the second sound of the heart, would suggest this as the most plausible explanation. The very

curious aphasia, in which the rather unusual condition was present of the persistence of the memory of nouns to the exclusion of all other parts of speech, may perhaps be explained as follows: It is not improbable that in the anterior portion of the third frontal convolution we have situated the memory for nouns. May it not be that in this case an embolus occluded all the branches of the middle cerebral supplying the motor area, and also the posterior portion of the third frontal convolution, while the anterior portion escaped? That not all of the motor speech centre had been destroyed is, of course, evident from the fact that the loss of words was incomplete. The fact that nouns only were retained would suggest that a portion whose exclusive function was the memorizing of this part of speech had been preserved.