

ART. III.—*Brachial Monoplegia complicating a Case of Enteric Fever.*^a By ROBERT S. ARCHER, B.A., M.B., M.Ch., Trin. Coll. Dubl.; late Physician, Netherfield Fever Hospital, Liverpool.

OF all the acute specific fevers common in this country there is no one that presents to the clinical observer so many complications during the course of the disease proper, or during convalescence so many sequelæ, as does enteric fever. It may be laid down as a broad principle that in this affection there is almost no organ or tissue of the body that is not liable to be affected by some secondary lesion, either in the acute stage or when the primary febrile symptoms have subsided. So insidious is the onset of many of these complications, and so fraught with imminent danger are some of them, that it behoves the physician to be constantly on the alert to detect their first approaches, and, if possible, to ward off a fatal termination.

The communication I have the honour to bring forward on this occasion has reference to a complication of extreme rarity, and on this account it is hoped it may prove of interest. It is not my intention to weary you with a detailed clinical history of the case, but I shall merely present for your consideration some of its salient points.

CASE.—James G., aged twenty-two years, came under observation in hospital about the end of the first or the beginning of the second week of enteric fever. The onset was marked by shivering, pains in limbs and back, headache, sore throat, and pain on swallowing.

On admission there were a few undoubted enteric spots on the abdomen; the tongue was dry, covered with a brown fur, and tremulous; there was cæcal gurgling, but no distinct tympanites; tonsils ulcerated; blood-tinged expectoration; sonoro-sibilant rhonchus over both sides of chest; pulse 100; temperature ranged between 103° and 104° F.; respirations 30; bowels constipated—a feature which characterised the case throughout its course. The ulceration of the tonsils gradually extended till, on the ninth day, it had implicated the uvula and back of the pharynx. The eleventh day was marked by delirium and attempts to get out of bed, profuse perspiration over head, face, and neck, great exhaustion, and extreme feebleness of the first cardiac sound. There was also, about this time, consolidation of the base of the left lung. On the following day there were three copious stinking bloody motions—the only occasion on which anything approaching diarrhœa occurred. The delirium continued, and there was great prostration, the pulse ranging

^a Read at the Meeting of the Liverpool Medical Institution, March 3, 1887.

from 100 to 180. For the next two days there were frequent attempts to get out of bed. The pulse ranged between 120 and 138. The temperature, which had fallen in consequence of the hæmorrhage, ran up on the fourteenth day to between 103° and 104° . On the fifteenth day there was a complaint of *numbness in the right arm*, and tremor of the lower jaw was observed. During the next seven days weakness of the right arm gradually became intensified, till, on the twenty-first day, the limb was noticed to be very weak, and the grasp of the hand extremely feeble. This period was characterised by occasional profuse sweatings, more or less constant delirium, muscular tremors, picking at the bed-clothes, at times involuntary urination, and implication of the base of the right lung, in addition to the left, by consolidation. Pain, tenderness, and deafness of the left ear were observed on the twenty-second day, and these symptoms were the precursors of a purulent discharge six days later. This discharge continued for several days.

The temperature reached the normal line on the twenty-first day, but began to rise again on the thirty-fifth, and pursued a febrile course, marked, for the greater part, by considerable remissions, till the fifty-second day, when it became permanently normal. *Great pain and heat* were noted as being present in the right arm and hand on the twenty-eighth day, and continued to trouble the patient for several days. On the thirty-fifth day the dynamometer indicated 8 kilogrammes on the right side, and 40 on the left; there was also considerable wasting of the muscles of the right arm and forearm, as compared with the left. From this on the right arm seemed to gain more strength, till, on the thirty-eighth day, the patient could lift the arm over his head, could flex the forearm, and pronate and supinate the hand to a moderate extent. For the next ten days the elbow grew gradually more rigid, till it became fixed at a right angle, and attempts to straighten it caused considerable pain. This condition improved till the patient's discharge, on the sixty-seventh day, when the elbow could be fairly well extended and flexed, but his hand remained so weak that he could not execute any of the finer movements, such as writing, holding a knife, or picking up small objects. The wasting of the muscles had considerably improved.

Remarks.—Paralysis confined to a single limb, or to the area of distribution of a given nerve, is a very rare complication of enteric fever. Indeed, true paralysis of any kind is not of frequent occurrence in this disease. Murchison, in his vast experience, does not appear to have met with a case such as the one related above, and Liebermeister does not mention it; and so it must be assumed that he also did not see an example of this complication. A search through several other works on Fever has not met with any better success. The only direct reference to this affection in

connection with enteric fever that I have been able to find, and it only bears on the subject partially, is in the *International Journal of Medical Sciences*, April, 1886, p. 593, where there is a short notice of a paper by Pitres and Vaillard, in the *Revue de Médecine* of December, 1885, on "Peripheral Neuritis in Typhoid Fever." Two cases of paralysis of the ulnar nerve during convalescence from typhoid fever are reported, in which atrophy of the muscles followed. The conclusions arrived at by these authors are shortly summarised as follows :—" 1. Among the various nervous affections which may develop after typhoid fever are the peripheral neuritis leading to paralysis of limited groups of muscles, accompanied by pain or anæsthesia, rapid diminution of the electrical excitability, and wasting of the affected muscles. 2. So far the neuritis has been demonstrated in only one case—that of Bernhardt; but its existence is shown by the analysis of the symptoms and the course of the paralysis. 3. Histological examination shows that in persons dead of typhoid fever, the peripheral nervous system is often the seat of parenchymatous neuritis. When these changes are not very advanced they may be latent or give rise to only ill-defined symptoms, but when more severe they become manifest, as the sensory, motor, and trophic disturbances characteristic of peripheral neuritis."

The paralysis in the case I have related above evidently was owing to a neuritis in which the majority of the branches of the brachial plexus supplying the affected limb was involved. That the whole of the branches did not participate in the inflammatory process is evident from the fact that the patient never lost entire control over the fingers, and was able to execute certain limited movements in connection with the elbow and shoulder joints.

The various paralytic affections observed in relation to the acute specific fevers usually occur in the stage of convalescence; but in this case it will have been noticed that the first symptom of nerve lesion began at the commencement of the second week of the fever, and the limb had not recovered its functions when the patient was discharged on the sixty-seventh day. The secondary febrile attack, which commenced on the thirty-seventh day and continued to the fifty-second, cannot be regarded as a relapse, but was due, at all events in part, to the neuritis.