the left angle of the mouth is slightly drawn up. The rigidity of the left side is noticed in the "drawing up" of the left shoulder and knee as

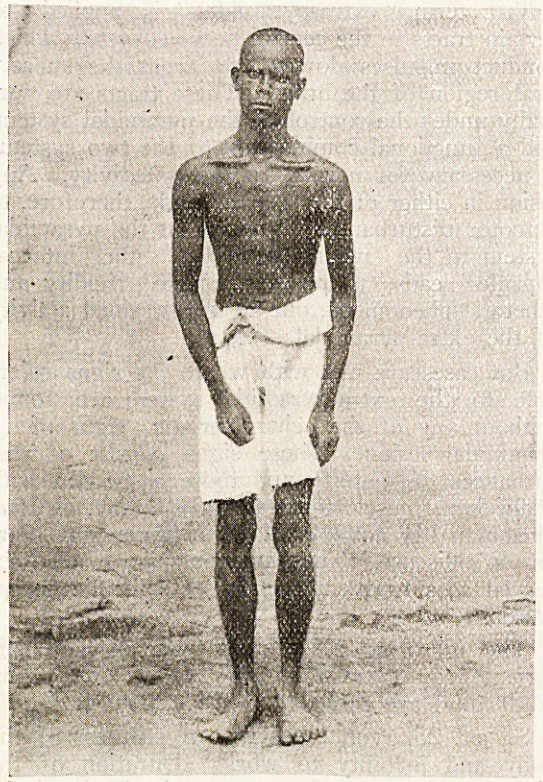

Fig. 1.

Post-encephalitic Parkinsonism characterised by rigidity, fixity of expression and tremor (bilateral).

compared with the right side. (Vide Fig. 2). He loses his equilibrium on slight extension of the trunk and falls backwards. Blood examination gives a negative Wassermann reaction and the cerebro spinal fluid shows increased pressure.

Patients with similar manifestations are frequently met with and on inquiry into their histories we find that the trouble could be traced back for a long period, of 3 years and more. Some of the patients trace their trouble to the first influenza epidemic in 1918. The initial fever is likely to be mistaken for influenza or typhoid.

Unlike a typical case of epidemic encephalitis, the abovementioned cases are free from oculomotor or other cranial nerve palsy, but the initial fever, accompanied by headache and lethargy or insomnia would lead one to class them as post-encephalitic Parkinsonism with lesions in the extra-pyramidal system.

In England there has been a gradual increase in the number of cases recorded annually, since the disease was made notifiable in 1919, and it would be useful to determine the extent to which this disease is prevalent in India.

Fig 2.

Post-encephalitic Parkinsonism. Unilateral (left side) rigidity and tremor.

A CASE OF AMYOTROPHIC LATERAL SCLEROSIS IN AN EAST INDIAN.

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DURING a recent tour among the villages, of which there are nine hundred within a radius of thirty miles of Mungeli, Central Provinces, the writer visited the Patheria branch dispensary. Here was brought to him a case with such outstanding features that the diagnosis could not be mistaken as being any other than amyotrophic lateral sclerosis. The reason for this recognition was the vivid memory of a very close personal friend who died with this sad and hopeless disease while the writer was an interne in Philadelphia. Never having seen such a case in an East Indian, the case is presented herewith.

REPORT OF CASE.

History.—A man Dukhalu by name, Patheria dispensary case No. 1571, 56 years of age, a Chamar by caste, from the village of Charbhatta, was brought to the dispensary with the complaint of, "Dribbling of saliva and inability to speak or swallow." The patient's wife and friends gave the history of the disease and the patient assented, nodding his trunk and head together when questioned; he could not nod his head unless he

moved his trunk also, and made signs with difficulty. Six months ago, they said, the patient was the strongest man in the village. He could go any distance with a load and lift almost prodigious weights with ease in spite of his age. At this time, without any premonitory symptoms, his voice began to fail and swallowing became difficult. Within a month, his voice, formerly strong, was gone and he could not swallow his food without pushing it back into his throat with his thumb. His tongue became "useless" and small. At this time, saliva began to dribble from his mouth and has flowed from his mouth ever since. This has caused itching of his face which has added to his discomfort. With the onset of these symptoms every muscle of the body began to twitch. This became a constant annoyance and though there has never been any pain this twitching has been the cause of restless nights and comfortless days. As the days passed, the patient and his friends noticed loss of weight and a wasting away of muscles and marked weakness until even the lifting of his head and sitting up has become a great effort. There have been no symptoms referable to the digestive system except that he is not able to eat enough. No symptoms referable to the other systems have taken a part in this picture. There has been no fever at any time before or during this illness.

The past medical history throws no light on the subject. The patient has always been well and strong. There is no history of any illness except smallpox in childhood. Venereal disease is denied. (In the villages there is no compunction to the frank statement of the history of venereal disease if it has been present.)

He has had four children who together with his wife are living and well. There is no history of such a disease in his family.

The social history is interesting. The patient is a poor peasant farmer. He has never been allowed by his caste to eat red spinach, brinjal, masur dal, fish or any food cooked in cast-metal dishes, only food cooked in beaten-metal vessels is allowed. He is not allowed to smoke or use tobacco in any form. Two years ago, his caste advanced into the Hindu group and putting on the sacred thread he added to the restrictions that already bound him that of doing without meat of any kind.

Physical Examination.—Patient is a big-boned, well-developed, well-built man of about fifty-five or sixty years of age. He sits on his haunches with his shoulders stooped, his head bowed, his mouth open as though it were impossible to close it, and from it thick viscid saliva flows almost in a constant stream. His face is thin and has a mask-like expression. His body is emaciated and his skin hangs loosely as though he had recently lost weight. The spines of the scapulæ are prominent, the muscles of the scapulæ sharing in the manifest atrophy of all the voluntary muscles of the body. Fibrillary twitching of all voluntary muscles is present. The temperature, pulse and respirations are normal. The head, ears and nose present no abnormality. The right eye has a cataract. The left eye has an early cataract, but vision is still quite good. There is pallor of the conjunctivæ. The mouth is relaxed and wasted with weakness of the masseters. The gums are retracted but pyorrhœa is not marked and all the teeth are in a fair state of preservation. The tongue lies helplessly in the floor of the mouth fully 1.5 c.m. below the border of the lower teeth. The tongue cannot be protruded. Over the surface of the atrophied tongue, whose surface is thrown into folds, there are manifest multiple fibrillary contractions. These contractions present themselves in from four to a dozen places simultaneously. There is apparent atrophy of the pharyngeal muscles also, for the pharynx appears unusually large and roomy. The uvula cannot be raised. The neck and chest present no abnormality besides the muscular fibrillation and atrophy mentioned above. The heart has no murmurs or other adventitious sounds. At the time of the examination there were very few fibrillations present in the abdominal muscles. On speaking of this to the patient's wife she volunteered the information, that at times the fibrillation in this area was very marked.

The nervous system deserves special attention. All the coarser motor reflexes are definitely increased. The knee jerk, Achilles reflex, biceps, etc., are ++. There is marked weakness in all the muscles and all are easily fatigued. There is a slight rigidity of all muscles and they react sharply to percussion. The Babinski reaction is absent. No ankle clonus is present. The abdominal reflexes are absent. There is absolutely no sensory disturbance. The mind is clear and active. There is no tenderness manifest on ordinary pressure anywhere. There is no pain or aching, and no headache. The fibrillary twitchings mentioned above, are marked in all except the abdominal muscles, where they are present, but only after close observation are they seen.

Diagnosis:—

(1) Amyotrophic lateral sclerosis with early bulbar involvement.
(2) Pyorrhœa.
(3) Cataract.
(4) Secondary anæmia.
(5) Eczema from saliva dribbling over the cheek.

The diagnosis was made from the history of a progressive muscular atrophy with involvement of the bulb accompanied by fibrillation of the voluntary muscles, increased deep reflexes and paralysis, together with a lack of any sensory disturbance. No other disease gives this syndrome.

Prognosis.—There is constant danger from choking or from aspiration pneumonia. Even if one of these complications does not develop, respiratory paralysis, heart failure or starvation will not allow many more months of life.

Etiology.—This is not known. Exposure to damp and cold, various forms of poisoning, auto-intoxication and other causes have been mentioned. There is no proof that syphilis has any relationship to the disease. Did the atrophy in this case come from a sudden leaving off of all meat and eggs, the patient having partaken of a diet including such things for over fifty years?

Treatment.—This is empirical. There is no medicine that has any curative value. Considering the diet deficiency as a possible cause it would be illuminating to see what effect the new liver and vitamin treatment, given through a stomach tube, might have upon the disease. The completely degenerated cells could not be brought back to their function again, but the process might possibly be stopped. Neither the patient nor his family, however, can be prevailed upon to come where such a treatment might be given nor to break his caste bonds in order to take any such treatment.

Comments.—To the writer there are several features of interest in this case. In the first place he had never seen or heard of a case of the disease in an Indian. Another feature is the very rapid development of bulbar symptoms and the rapid progress of the disease. So rapid has been the extension that at the time of the examination the symptoms point to the fact that practically all the anterior and lateral pyramidal tracts including the sections in the spinal cord, medulla, pons, crus and possibly higher areas have become involved within the short space of six months. And, lastly, as mentioned above, there is the possible causative factor of a deficiency in diet at a time when the body was not able to make adjustments. This adjustment might possibly have been made had the patient been younger.

In these days we naturally refer all our unanswered queries to vitamin-deficiency for our answer.

NERVE ABSCESS IN LEPROSY.

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MUIR (1924) has recorded the occurrence of nerve abscess in leprosy. We have investigated this condition and our findings are as follows:—

Incidence.—In about 1,000 cases of leprosy of all kinds we have found nerve abscesses in 19 patients.

Nerves affected.—The commonest nerve to be affected is the ulnar nerve, 14 cases; the next commonest, the internal cutaneous nerve of the forearm, 3 cases; the median nerve, 1 case; the radial nerve, 1 case. We have never found a nerve abscess except in the arm.

The nature of the abscess varies somewhat according to the nerve affected:—

In the ulnar nerve.—In 8 cases there was a thickening of the nerve, sometimes very marked. In some cases the nerve was found as thick as the little finger. The swelling usually affects the nerve for three or four inches above the elbow. When the nerve is exposed it is found adherent to the neighbouring tissues and when the nerve sheath is incised the abscess is found beneath the epineurium and between the nerve bundles. The abscess is sometimes localized to one place but at other times spreads up and down the nerve for a distance of two or three inches. Sometimes there may be two small abscesses an inch or two apart with a small sinus connecting the two.

The abscess usually contains white cheesy semi-solid matter. When examined microscopically, leucocytes, lymphocytes, and "lepra" cells are found. A few lepra bacilli are usually found, some in "lepra" cells and some lying free. These are usually short forms, only about 2 or 3 μ long, and may be degenerated or dead.

In six cases of abscess of the ulnar nerve a different condition was found. Here the nerve was not markedly thickened and in connection with the nerve, but slightly removed from it, there was found a swelling varying from the size of a pea to that of a pigeon's egg. This swelling was usually well defined and capsulated and not adherent to the skin, but in one or two cases the swelling was diffuse and had no definite margin and in one case the abscess was about to burst through the skin.

At operation these swellings were found to be abscesses containing cheesy matter as already described, enclosed in a fibrous tissue capsule and having a narrow neck with a sinus passing through the sheath of the nerve to the interior of the nerve. This condition had apparently been brought about by the formation of an abscess inside the nerve sheath, the abscess bursting outwards through the sheath forming an encapsulated swelling outside the nerve, instead of spreading up and down the nerve as in the other 8 cases. Hence the less marked swelling of the nerve itself.

In the radial nerve.—In one case a similar abscess was found outside the nerve.

In the internal cutaneous nerve of the forearm other forms of nerve abscess were found in 3 cases. Here the abscesses have been small and in every case multiple. In one recent case five different abscesses quite small and with no apparent connections between them were found at intervals of about two inches along the nerve from elbow to wrist. This is exceptional. The two other cases have each shown two abscesses, in one case connected by a sinus running inside the sheath, in the other case separate. Some of the abscesses were confined inside the nerve sheath, some had burst out into the subcutaneous tissue.

The median nerve.—In one case a double abscess was found situated just above the elbow, both abscesses being inside the sheath and joined by a sinus.

Symptoms and signs of nerve abscess.—These are an exaggeration of the previously existing signs of nerve leprosy. In many cases there is