Traumatism and General Paralysis. — A Discussion opened (1) by JAMES MIDDLEMASS, M.D., Medical Superintendent, Sunderland Borough Asylum.

WHEN, at the secretary's invitation, I suggested "Traumatism in Relation to General Paralysis" as a subject for discussion to-day, I was influenced in doing so by the fact that recently I had had some cases in which this question was a very important one. This importance was due to there being the necessity to decide whether or not the patient was entitled to compensation for injury under the Workmen's Compensation Act.

The points to be set before you and on which an expression of opinion is desired, may best be understood by giving a short account of one of the cases. The patient, a man æt. 46, was a shipyard labourer. In the summer of 1901, he, in the course of his employment, had occasion to go up a ladder. When he had got about three or four feet from the ground, he missed his footing and fell down. He did not fall on his head, but sustained a slight sprain of one ankle and a few small bruises on the back. He was a little shaken but was able to get up, to give an account of what happened, and to walk home. He was, however, unable to go to work next day, owing to pain in his ankle, and as a matter of fact he never went to work again. In a few days his injuries were nearly well, but a week after the accident he began to suffer from severe headache, with twitchings of the eyelids and lachrymation. The headache persisted, and the muscular twitchings spread to the lips and tongue. The headache still continued to be severe, and some time later his mind showed signs of becoming affected. He got steadily worse, both physically and mentally, until he had to be sent to the asylum, about a year after the accident, in June, 1902. On admission he had well-marked physical signs of general paralysis, and mentally he showed evidence of the demented form of that disease. He got steadily worse and died in January, 1903. At the *post-mortem* examination, the brain presented the typical lesions of general paralysis, and neither to the naked eye nor under the microscope was there any evidence of traumatism of the brain or skull.

He had for over fifteen months received a weekly allowance

https://doi.org/10.1192/bjp.50.210.433 Published online by Cambridge University Press

as compensation for the accident, but after asking my opinion this was withdrawn. The man's relations, backed by the relieving officer, took steps to bring an action to have the matter tested legally, but in the meantime the patient died, and the action was dropped.

The reasons which influenced me in giving the opinion that the disease was not due to the accident, were (1) that the accident was comparatively slight; (2) that there was no disturbance of consciousness, nor any other symptom that the brain had been directly injured; (3) that the symptoms of general paralysis made their appearance in a pronounced form only a week after the accident. He was said to have been quite healthy before the accident, but it is open to question whether a skilled person would not have been able to detect some evidence of brain disease had he been carefully examined. It should also be mentioned that there was very strong presumption amounting almost to positive proof that the man had suffered from syphilis. The condition of the aorta and cerebral vessels at the *post-mortem* examination confirmed this view. Even though the general paralysis were an immediate result of the accident, it is a question as to how far the previous existence of syphilis would absolve the employers from liability. Presumably they would not have been liable had the man been drunk.

I have not been able to ascertain that there is any work or paper in which these points are either authoritatively or exhaustively discussed, and it is with the view of obtaining this that I have ventured to place them before you for discussion.

Dr. GILMOUR followed with details of an interesting case in which general paralysis appeared to follow a blow upon the head, but *post mortem* there was found that there had been a fracture of the base.

Dr. POPE was glad Dr. Middlemass had brought forward this discussion, as it was a matter which had come under his observation, owing to the frequency with which traumata are given as the exciting cause of cases which ultimately turn out to be general paralysis, at his asylum. He was unable to accept as proved that all general paralysis is syphilitic in origin, as he had treated a considerable number of cases in which all the external evidences were in a contrary direction, though he was bound to admit that a syphilitic history was very common.

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Dr. JOHNSTONE (Ilkley) regretted the title of Dr. Middlemass's paper had not been "Latent General Paralysis of the Insane excited or rapidly evolved by a Trauma." In the minds of those who had given much consideration to the subject, syphilis was the chief etiological factor in the vast majority, if not all cases of general paralysis of the insane.

The syphilitic virus manifested itself chiefly on the central nervous structures, the skin, and those mucous surfaces continuous with the skin, the reason being that those structures owed their development to the same primary embryonic layer, *viz.* the epiblast.

Many cases of syphilis caused very mild or slight skin troubles, and received little or no specific treatment; but these were the cases in which, in after life, the central nervous structures received the full virulence of the poison, giving rise to locomotor ataxy, general paralysis, brain syphilis, etc. The length of time from the original infection—in many cases entirely forgotten—and the onset of nervous symptoms doubtless caused the delay in their connection being discovered.

Any severe shock or physical accident occurring either directly or indirectly to the central nervous system will, undoubtedly, expedite the development of any latent predisposition, and this is not confined solely to general paralysis of the insane.

For example, I have seen a diagnosis of locomotor ataxy only established after a severe bicycle accident had happened to a *quondam* experienced rider.

Dr. MERSON (Hull).—I see a good many cases of general paralysis, and my experience is that very often some injury is assigned as the cause, when inquiry into the history brings out evidence of the previous existence of the disease, and one has no difficulty in saying that the accident was a consequence of the patient's clumsiness. In some cases, however, without evidence of previous illness, the symptoms set in immediately after an injury and apparently in consequence of it. In such a case where the question of compensation arises, I do not think we should be justified in giving a decided opinion against the claim, even if we think that no injury can of itself set up general paralysis without the previous existence of some altered state of brain, the consequence of syphilitic or other poisoning. Such a condition of brain may have been

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present, and yet the symptoms might not have shown themselves at the time, or might even have remained quiescent for an indefinite period, but for the occurrence of the injury. In these circumstances, I think a patient would be entitled to reasonable compensation.

Dr. EDDISON suggested that future compilers of statistics would probably be puzzled at the sudden increase of the number of cases of traumatic general paralysis unless they happened to note the fact of the passing of the Employers' Liability Bill about the same time. This seemed another illustration of possible injustice. He had never seen a case of general paralysis brought on by any injury; but it would be unscientific to say it could not happen. The immense majority of cases of general paralysis seem to happen in persons who have had syphilis; and it is not improbable that a shock of any kind happening to a nervous system already affected by syphilis might develop an attack of general paralysis; and a fall from a ladder might possibly be the immediate "cause" in that sense. He remembered hearing a judge say that it was no defence for a railway company to show that a sufferer was "nervous" or "hysterical" before an accident if the accident caused something more; the company must take care not to injure such people. The moral of these cases seem to be that employers of labour must take care not to injure such people—or else not to employ them. He thought very little attention need be paid to statements as to perfect health up to the time of an accident. In all such cases some particular event was nearly always given quite honestly as the beginning and cause: the early symptoms having been quite overlooked.

Dr. EURICH supported the statement that syphilis preceded general paralysis of the insane in almost all cases occurring among the upper classes. Traumatism could determine the outbreak of ordinary manifestations of syphilis, and was probably instrumental in determining the outbreak of general paralysis of the insane in some few cases. Still it was difficult to see how an injury to the head could bring about the changes so frequently found in the posterior columns of the cord. So far as compensation under the Act was concerned, two questions must be kept separate from each other: (1) The scientific question as to the exact *role* played by traumatism in the

https://doi.org/10.1192/bjp.50.210.433 Published online by Cambridge University Press

genesis of general paralysis of the insane; and (2) the question of compensation. So long as we are agreed that injury can hasten or aggravate already existing general paralysis, then the victim is entitled to compensation, from which antecedent syphilis should not debar him.

(1) At the Northern and Midland Divisional Meeting, April 7th, 1904.

General Paralysis and Crime.

By JOHN BAKER, M.D., Deputy Superintendent, Broadmoor Criminal Lunatic Asylum.

BEFORE the invasion of established general paralysis there is a prodromal stage, which ranges within wide limits as to its scope and duration. The clinical manifestations are many and various, and are symptomatic of either a rapid, or of a slow and insidious disintegration of the intellectual, moral, and affective life. Of all the prodromata, failure and decay of the moral sense are the most important, and are exemplified by acts of omission and commission against law, order, and propriety. The disease attacks all classes, and as the friends cannot nicely discriminate the changes in character, and are apt to look upon them as temporary aberrations, the disturbance to the social fabric caused by these sporadic displays of moral perversion is not inconsiderable. The nature and extent of the disharmony and distress occasioned by these moral lapses depend largely on the social standing, occupation, and opportunities of the diseased individual, and desolate homes, widespread ruin, and unenviable publicity often follow in the train of the predominant imaginative conceptions. The larger ambition may lead to wild speculation, the bolder schemes to fraud. Sobriety is turned into drunkenness, and sexual excitement may result in rape and acts of indecency. If thwarted or opposed, destructiveness or violence may ensue, but in this direction serious consequences are comparatively seldom associated with the expansive prodromata. The budding paralytic of this type is rarely vindictive; although easily roused to anger, he is easily calmed.

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