THE EPILEPTIC DRIVER*

BY

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Many neurologists hold the view that epilepsy is the cause of driving accidents only on incredibly rare occasions. Some whose opinion I have sought were unable to recall ever having seen a single case in which this had occurred. The same opinion is also held by several London coroners with a very large experience of fatal road accidents, and the Royal Society for the Prevention of Accidents also has no knowledge of any such cases. It is therefore with diffidence that I describe some examples which suggest that this impression is incorrect.

My interest in the problem was aroused a few years ago by a patient in the National Hospital under the care of Dr. Denis Brinton. After a prolonged post-traumatic confusional state due to a car accident, she developed a moderately severe dementia. Her husband (the driver) was intensely depressed and constantly reproached himself, but it was only some months after the wife's admission to hospital and after many interviews with him that he gave a history of having had several attacks of unconsciousness over the previous five years. His doctor had advised him not to drive. There was no other satisfactory explanation of the accident.

Since that time I have been on the look-out for similar cases of seizure among drivers, resulting in accidents. Some of my examples were found in routine history-taking from epileptic patients. A number have come to light by asking epileptic drivers whether an attack had ever occurred whilst driving.

Engine-drivers

The most alarming cases that I have encountered have been in engine-drivers. The first of these drivers had followed his occupation for almost thirty years. About ten years before I saw him he had on one isolated occasion lost his senses and fallen to the ground. For several years he had been liable to occasional attacks of a few seconds' duration, characterized by a feeling of unsteadiness without being aware of any impairment of consciousness. In one of these attacks, whilst in charge of his engine, he suddenly found his mate applying the brake—just too late, unfortunately, to prevent their running into a stationary engine. A few weeks later he had another attack. This time he remembered passing a first warning signal, then nothing more until he found himself (with the train travelling at speed) about to pass a second stop signal. Luckily he was able to apply the brakes and keep his own counsel.

The second of these cases was that of the driver of an underground train. Three years previous to this episode he had a single generalized convulsion in his sleep. Then, while driving and without warning, he lost his senses and fell to the floor of the cabin. His hand slipped from the safety handle and the train stopped. When found he was lying on the cabin floor with a lacerated scalp and a bitten tongue. On his way to hospital he was confused and difficult to control. He must have managed to conceal many of these details when seen a few days later by the medical officer, as he was considered fit to drive.

The last of my epileptic engine-drivers had his second focal attack while driving, but was able to apply the brakes before losing consciousness. Investigation revealed a frontal meningioma, which was successfully removed.

Motor-car Drivers

Several of my cases have been drivers of heavy lorries. One of these had had attacks of momentary loss of consciousness and occasional generalized convulsions for ten years. He was then certified, and spent ten months in a mental hospital on account of a delusional psychosis associated with frequent epileptic attacks. On discharge he returned to work and had an attack several months later while driving, during which he ran into a stationary bus. On recovering, he found, standing beside him, a policeman, who, it seems, attributed his mental state to concussion. The patient's wife, on hearing of the accident, informed his employer of his attacks and as a result his licence was withdrawn.

Dr. Josefine Webb (1955) investigated the National Service Board's medical records of 1,200 professional drivers of commercial vehicles. It was found that five of these drivers had been rejected from military service on account of epilepsy. Another finding was that 49 had defective vision and 34 had defects of muscular power and control. Dr. Webb also pointed out that, of the 5,000 or more fatal accidents to pedestrians and cyclists occurring each year, in well over 50% of cases professional drivers were involved.

Kerr (1953) conducted a similar investigation in Edinburgh. He personally examined 2,000 applicants who had already passed a lay selection test for employment as bus-drivers. He rejected seven on account of epilepsy, which they had not previously disclosed. Evidence like this indicates the desirability of careful medical interrogation and of special driving tests for professional drivers.

No one could claim that such control would be infallible, as the following case shows. A young man had just retired from professional boxing and invested his winnings in a garage. When I first saw him he complained of headaches, depression, attacks of vertigo, and anxiety lest he was developing "punch drunkenness." His intelligence was higher than that of many professional boxers even though he had been knocked out about 40 times. The attacks of vertigo I regarded as being of labyrinthine origin, which seemed to be supported by the presence of deafness on one side. Six months later he attended again, on account of an attack while driving, in which he lost his senses. On regaining them he found himself on the wrong side of the road confronted by an angry motorist, whom, it seems, he had narrowly missed. Other less dramatic attacks had occurred while he was driving, and, on reviewing his history, I came to the conclusion that the attacks were probably epileptic. The E.E.G. findings supported this.

The next case is somewhat unusual in character and almost caused diagnostic confusion. A young man of 25 was admitted to hospital following a road accident, conscious but confused. A few hours later he became unrousable, was found to have a right hemiparesis and later dysphasia. Over the next week these signs gradually decreased without active treatment. Eleven days after the accident he developed focal motor attacks in the right face, which continued for several days and were followed by a recurrence of the dysphasia and right hemiparesis. Surgical exploration of the left fronto-temporal region was carried out with negative results. During convalescence, when the speech disturbance and paresis had virtually disappeared, he again became confused, and the following morning he was found to have a left hemiparesis. At this point it was thought that a complete review of the history was called for, and this disclosed that from childhood to the age of 19 or 20 years the patient had had occasional attacks. These took the form of sudden numbness and weakness of the left arm and leg, occasionally associated with loss of consciousness. It now appeared that the accident occurred while he was

*Based on a paper read in a discussion on "Epilepsy and the Motorist" at the Annual meeting of the British Branch of the International League against Epilepsy in April, 1955.

riding his motor-cycle. For no apparent reason he had suddenly fallen off a few yards from a bus, although no collision had occurred or been imminent. It seems probable, therefore, that a seizure was responsible for this accident.

Some magistrates have a strange approach to this problem, as the following case illustrates. A patient had experienced momentary attacks of loss of consciousness for about four years. Soon after they began he overturned his car. Whether this was due to an attack it was not possible to say. Some weeks after his first attendance at hospital he had an attack while driving, witnessed by his wife, in which he drove into a bus. When prosecuted for dangerous driving he frankly admitted that an attack had been responsible. He was fined £5, but was allowed to keep his licence and therefore to continue driving.

I have been able to collect and observe personally 28 cases, all of which resulted in accidents, although most were minor ones. In other instances patients have had sufficient warning before an attack to enable them to bring their vehicle safely to a standstill.

A rich source of information is found in newspaper accounts of this type of case. The following is a report of inquest proceedings. A man, his wife, and two children were killed when their car was in collision with a coach. The wife was driving at the time of the accident, and, in the words of the driver of the coach, "the car seemed to shoot across a wide section of the road and straight into my vehicle." On looking into the wife's medical history it was discovered that during the previous ten years two blackouts had occurred following an operation either on the brain or on the ear (this was uncertain from the evidence available). The lawyer representing the family succeeded in convincing the jury that the attacks were not epileptic, and a verdict of accidental death was recorded. The family doctor, however, seems to have been of the opinion that the attacks were epileptic. Once again, was epilepsy responsible for the accident? This series of newspaper cases amounts to a total of 17.

Others Liable to Driving Accidents

I have attempted, in a very rough sort of way, to compare these epileptic cases with other accidents resulting from sudden loss of control. Sir Charles Symonds (1948) has expressed the opinion that coronary thrombosis is occasionally a cause of motor accidents. In a search through the files of a newspaper I discovered 40 cases of fatal coronary thrombosis occurring to the driver. In 12 of these, serious, even fatal, accidents to others resulted. Several were young men with no previous symptoms. Another cause of such accidents is hypoglycaemia in diabetics receiving insulin. In an article published in the *Lancet* (1949), a diabetic described having occasionally found himself driving unsteadily. More than once his passenger had had to bring him home. On one occasion it was his nephew, aged 9 or 10, who sat beside him handling the wheel.

Few would advocate the refusal of driving licences to persons with coronary disease or diabetes. I would suggest, from my material, that these drivers are almost as frequently responsible for accidents as epileptics.

Alcoholism is, of course, a far greater factor, and, as Lennox (1947) has emphasized, this is a hundred times more often responsible for automobile accidents than epilepsy, yet alcoholics are not required to disclose their illness when applying for a licence.

I may present here a sample case to show the other side of the picture. A taxi-driver has attended as an out-patient regularly since 1906. His attacks have been well controlled and infrequent and he has managed to conceal from his general practitioner the fact that he attends hospital. The various medical examination forms required by the Metropolitan Police are therefore completed to the patient's satisfaction and he is able to continue with his occupation. There is no evidence that he has ever had an attack or accident while driving.

Conclusion

It will be generally agreed that those liable to attacks should never have charge of a vehicle. Epileptics who continue driving should be warned of the very serious risks they are taking, and should also realize that they are breaking the law. Even patients who claim that their auras are long enough to allow them to stop in good time should also be strongly advised to give up driving. We know that such warnings cannot be relied upon to occur on every occasion.

Secondly, there is the case of a bus- or train-driver who has had even a single epileptic attack. I feel that he should discontinue driving these types of vehicle, just as those under treatment with insulin or suffering from coronary disease are not supposed to drive public transport vehicles.

Finally, there is the controversial question of whether those completely free from attacks for a number of years should be permitted to obtain a driving licence—of course only in the category of private motorists. In selected cases, after five years of freedom—for example, three years on medication followed by two without—I believe the risks would probably be extremely small. It is also obviously necessary to offer the epileptic some hope that he may be able to drive again when his attacks have been controlled, as otherwise he will fail to disclose his disability.

I do not believe that the doctor should give information to the motor-licensing authorities of patients suffering from epilepsy, as is the case in Norway, California, and New Jersey, where epilepsy is a reportable disease. The authorities in these countries appear to complain that physicians do not always comply with their obligations in reporting the condition, or, alternatively, are often reluctant to make a diagnosis of epilepsy. In addition, in those countries a driving licence can be obtained after three to five years of freedom from attacks.

Summary

A description is given of epileptics who have attacks while driving, which result in accidents. It is suggested that doctors should warn their patients of the grave risks involved in continuing to drive.

Evidence is presented to suggest that diabetics receiving insulin and those with coronary disease are as liable to driving accidents as the epileptic. It is pleaded that epileptics in whom attacks have been completely controlled should be allowed a driving licence only in the category of private motorists. They should certainly be debarred from employment as professional drivers.

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"The difference between the slum and the home," said Professor G. MACDONALD at a meeting of the Ross Institute industrial advisory committee on November 17, 1955, "lies in the fact that four walls and a roof, however large, and however much partitioned, do not constitute a home unless they provide a unit within which it is possible to live a natural and respectable happy life. A comparison of the good and the bad shows that this turns very much on questions of privacy, freedom from inescapable dirt and dilapidation, light, and thought in design to give a reasonable degree of comfort and ease in working."