



G10 Epilepsy—A Major But Disregarded Health Problem

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Myocardial fibrosis might be the organic substrate for malignant arrhythmia in patients with epilepsy, which can lead to sudden death either due to natural causes or due to traffic accidents.

It seems to be the general opinion that epilepsy is of no risk to traffic and there is a tendency all over the world to be less restrictive to provide a driver's license to patients with epilepsy. A study from Denmark, the Accident analysis group, Odense, has shown that epileptics have a seven times increased risk to be involved in traffic accidents compared to controls.

Moreover, epidemiological studies have established sudden unexpected death (SUDEP) to be the most important cause of epilepsy-related death as a direct consequence of seizure activity. Postmortem reports have shown patchy subendocardial fibrosis in the otherwise normal hearts of these epileptic patients, although these findings are controversial. However, it is well known that such small areas of myocardial fibrosis may serve as a potential substrate for malignant arrhythmia causing sudden death.

The following two cases illustrate this issue and should encourage researchers and the public to focus on the problem.

A 33-year-old truck driver drove for no apparent reasons in low speed off the road and into a train wagon. The front of the truck was crashed and he was found wedged in behind the steering wheel. The cause of death was bleeding due to lesion of the left axillary artery. He was known to suffer from epilepsy since the age of 17, was seen at the neurological department twice a year, and was on antiepileptic treatment. He had earlier been disqualified from driving for one year due to a solo accident and later on for 3 months due to an epileptic fit.

An otherwise 23-year-old healthy woman with drug refractory epilepsy was found dead in her bed. The cause of death was an epileptic fit based on findings at the scene, autopsy, microscopy including neuropathological examination and toxicology. Especially, microscopy of the myocardium including the conduction system showed focal myocardial fibrosis of the endocardium located to the posterior papillary muscle.

Conclusion: focal myocardial fibrosis can be the organic substrate for malignant arrhythmia triggered by an epileptic seizure which cannot be avoided by antiepileptic treatment and which has to be taken into consideration when authorizing an epileptic driver with a driver's license.

An ongoing not yet published prospective case-control study from the authors' group has shown epileptics to have focal myocardial fibrosis.

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Epilepsy, Myocardial Fibrosis, Traffic Accident