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Sudden Death From Coronary Heart Disease While Driving Cardiac In Citizens of Khorezm :Pathology, Clinic, Countermeasures

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Abstract: Sudden death from ischemic heart disease while driving is an important cause of traffic accidents. This study discusses causes of traffic accidents in relation to risk factors for acute myocardial infarction such as hypertension and overwork and provides references for the early prevention and regulation of drivers' health conditions.

Keywords: Accidents, Traffic; Coronary Disease; Death, Sudden, Cardiac; Government Regulation; Workload

Sudden cardiac arrest is a life-threatening condition in which your heart comes to a standstill. Your heart isn't pumping blood anymore. Within minutes, this puts your organs and whole body at risk of death. They must constantly receive oxygen. Your blood delivers that oxygen. Emergency treatment includes cardiopulmonary resuscitation (CPR) and defibrillation. CPR keeps enough oxygen in your lungs and gets it to your brain until an electric shock restores a normal heart rhythm. CPR and defibrillators may save your life.

When you have a sudden cardiac arrest, your body's organs can't receive any oxygen. Without immediate help to get oxygen to your brain and other vital organs, this is fatal.

Sudden cardiac arrest happens when your:

- Heart's electrical system malfunctions and suddenly becomes irregular.
- Heart beats dangerously fast.
- Ventricles may flutter or quiver (ventricular fibrillation).

As a result of these electrical changes to your heart, it can't pump blood, and blood doesn't reach the rest of your body. As a result, this condition is fatal unless emergency treatment starts immediately. In the first few minutes, the greatest concern is that blood flow to your brain will be so limited that you'll lose consciousness.

An attack of illness while driving is one of the more common causes of traffic accidents, and while the driver may die suddenly due to the onset of illness, incapacitated driving can destroy public facilities and cause serious harm to passersby . Many countries have various restrictions on the health conditions of drivers. In 2001, China promulgated the Physical Qualifications for Automobile Drivers and Test Protocol (GB 18463-2001), which restricts driving for people with conditions including disabilities, amblyopia, mental illnesses, epilepsy, high blood pressure, and drug abuse when obtaining a driver's license, but there are no specific requirements for physical conditions which occur after the

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obtainment of a driver's license. In Japan, people over 75 years of age are required to pass an annual physical examination before driving, but there is still a lack of provision for the assessment and restrictions related to coronary heart disease. In the United States, there are strict regulations for older drivers. For example, the state of Iowa requires medical examinations for drivers over 70 years of age every 2 years, while the state of Arizona requires medical examinations every 5 years starting when drivers are 65 years of age . Australia has formulated relevant guidelines for health professionals to assess the health of drivers, providing suggestions for the Driving License Authority to assess whether a person is suitable to hold a driver's license. Among them, guidelines on ischemic heart disease and hypertension are a focus of attention. For patients with severe disease, doctors recommend limiting driving and regularly reviewing their health conditions . Different countries have different requirements for the health conditions of drivers, and there is no unified objective assessment standard for the severity of ischemic heart disease; moreover, overwork is not considered to be a factor in the assessment.

Many factors can increase your risk of sudden cardiac arrest and sudden cardiac death.

The two leading risk factors include:

• Previous heart attack: Your risk of sudden cardiac death is higher during the first six months after a heart attack. Healthcare providers link 75% of sudden cardiac deaths to a previous heart attack.

• Coronary artery disease: Risk factors for coronary artery disease include smoking, family history of cardiovascular disease, high cholesterol or an enlarged heart. There's a link between 80% of sudden cardiac deaths and coronary artery disease.

Sudden death while driving is one of the most important causes of traffic accidents, and one of the most common causes of sudden death is ischemic heart disease . During an acute attack of ischemic heart disease, some people die within a short period of time and there is no time for treatment. Another group of people do not pay attention to an attack because they have no early symptoms or have mild symptoms, which is classified as silent myocardial infarction . Myocardial infarction has already occurred in patients with silent myocardial infarction, and, in theory, when timely diagnosis and treatment occurs, they can avoid adverse consequences. Myocardial ischemia is usually caused by decreased blood flow or blockage in the coronary arteries. Approximately 40% of patients have transient myocardial ischemia, of whom approximately 70% to 80% present with silent myocardial infarction . Patients with silent myocardial infarction usually have no subjective symptoms of ischemia or mild symptoms, but there are objective manifestations of induced myocardial ischemia in exercise or drug stress tests, or objective evidence of coronary artery stenosis . Silent myocardial infarction accounts for approximately half of all myocardial infarctions , and its risk factors include hypertension, diabetes, advanced age, emotional agitation, and fatigue . Notably, some patients with silent myocardial infarction cannot be identified by routine electrocardiography and myocardial enzyme spectroscopy . Neither patients with this type of short-term death after the onset of ischemic heart disease nor those with this type of silent myocardial infarction seek medical help in time. For the type of short-term death after the onset of ischemic heart disease described above, regular physical examinations and the establishment of preventive measures are particularly important , while for silent myocardial infarction patients, early identification is critical.

In the present study, only 2 of the 21 patients with sudden death from ischemic heart disease while driving complained of symptoms of abdominal discomfort or nausea before death occurred. The remaining 19 drivers had no obvious symptoms or did not take their symptoms seriously because they

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were mild. The cause of death was determined by autopsy and histopathological examination after death. The age of the 21 drivers, all men, was mainly between 40 and 60 years old, and the average weight of their hearts was generally higher than normal. The left anterior descending coronary artery had the most severe atherosclerosis and stenosis among the 3 main coronary arteries. There were 12 patients (57.14%) with a history of hypertension, 8 patients (38.10%) with prior myocardial infarction, and 4 patients (19.05%) with pathological changes characteristic of fatty liver, suggesting that cardiac hypertrophy, severe coronary atherosclerosis sclerosis, hypertension, previous myocardial infarction, and fatty liver may be risk factors for sudden death from ischemic heart disease.

Conclusions

We suggest that the influence of ischemic heart disease and overwork on driving should be considered for men aged 40 to 60 years who drive often, especially when there are risk factors for acute myocardial infarction attack and overwork. In these cases, we suggest that driving should be limited. It is necessary to establish objective evaluation criteria for the severity of ischemic heart disease and overwork and incorporate it into health condition-related driving regulations.

This study collected only 21 cases of sudden death from ischemic heart disease while driving. Whether there is a difference between type I and type II sudden death from ischemic heart disease and the correlation with overwork is still unclear. It is necessary to expand the sample size in further research to objectively evaluate the severity of ischemic heart disease and overwork and provide a basis for the formulation of relevant laws and regulations.

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