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Analysis of Clinical Etiology of Sudden Cardiac Death in Elderly Patients in the Department of Cardiology

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ABSTRACT. *Objective: To analyse the clinical causes of sudden cardiac death in elderly patients during treatment, and to provide a reference for the prevention and treatment of sudden cardiac death in the cardiology department of our hospital. Methods The clinical data of 60 elderly patients with sudden cardiac death in our hospital in recent years were retrospectively analysed, and the clinical causes of sudden cardiac death in elderly patients during treatment were analysed. Results: Acute myocardial infarction, hypertrophic cardiomyopathy, acute coronary syndrome and other diseases are the main causes of sudden cardiac death in elderly patients. In addition, hypertension, emotional agitation, and strenuous exercise Excessive smoking and drinking are also one of the factors that cause sudden cardiac death. Elderly patients often get sick at night and die within 1 hour. Conclusion: Basic heart disease, hypertension, heart failure, etc. are all factors leading to sudden cardiac death in elderly patients in cardiology. Clinical prevention of sudden cardiac death in elderly patients should be improved for acute myocardial infarction and pulmonary heart It pays attention to diseases, hypertrophic cardiomyopathy and acute coronary syndrome, comprehensively evaluates the patient's condition, and strengthens the monitoring of elderly patients.*

KEYWORDS: *Clinical aetiology, Sudden cardiac death, Elderly patients*

1. Introduction

In recent years, the incidence of sudden cardiac death in my country has been increasing year by year, and it mostly occurs in middle-aged and elderly people. Sudden cardiac death mainly refers to the sudden death caused by normal healthy people and stable heart disease patients. Sudden cardiac death has the characteristics of rapid onset and rapid progress. The main causes include acute myocardial infarction, hypertrophic cardiomyopathy, pulmonary heart disease, high blood pressure, history of drinking, smoking history, bad living habits, etc. Our hospital has retrospectively analysed the clinical data of 60 elderly patients with sudden cardiac death in recent years, and explored the main causes of sudden cardiac death.

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The research results are now reported as follows.

2. Analysis of Related Risk Factors of Scd

The World Health Organization defines death within 6 hours of illness as sudden death. In 2008, AHA, ACC, and ESC jointly revised the definition of Sudden Cardiac Death (SCD), that is, death within 1 hour of symptom onset caused by any heart disease that occurs outside the hospital, emergency room, or on the way to the hospital. SCD has the characteristics of suddenness and unpredictability, which increases the difficulty of rescue for medical staff and brings pain to family members; nurses are generally the first witnesses of patients with SCD, so nurses must be able to identify The implementation of predictive care for the high-risk factors of SCD can not only detect changes in the patient's condition in the hospital and report to the doctor for timely treatment, but also strengthen the health education of patients and their families, so that they can grasp and identify the high-risk factors of SCD and seek medical treatment in time. Early intervention to reduce the occurrence of SCD and reduce mortality.

Most SCD patients have obvious predisposing factors, such as overwork, overeating, constipation, smoking, drinking, infection, high blood pressure, psychological stress, mood disorders, etc. These unfavorable factors can induce ischemic heart disease. Coronary artery spasm leads to heart rhythm disturbance and SCD. Vigorous activity and overwork will increase the burden on the heart, increase the heart rate, and cause myocardial ischemia and hypoxia. Especially in patients with coronary heart disease, it is easy to induce ventricular fibrillation; after a full meal, the gastrointestinal reflex can cause coronary artery contraction, increase the tension of the vagus nerve, and make back Decreased cardiac blood volume can cause myocardial ischemia and induce arrhythmia; smoking can promote the inflammatory response of coronary plaques, accelerate the rupture of plaques, increase platelet adhesion, and induce coronary artery spasm; inflammatory C-reactive protein and cytokines such as interleukins can directly act on cardiomyocytes and cause abnormal electrical conduction of cardiomyocytes; heavy drinking, high blood pressure, emotional agitation, etc. increase the excitability of the myocardium and induce SCD. Arrhythmia, ventricular tachycardia and ventricular fibrillation can cause SCD; arrhythmia from acute myocardial infarction has a high risk of sudden death, which is more common within 24 hours; LVEF <40% after myocardial infarction is accompanied by non-sustainable or inducible, In patients with ventricular tachycardia that cannot be suppressed by drugs, the 5-year incidence of SCD is 32%; sinus bradycardia, sinus block, sinus arrest, atrioventricular block, and intraventricular block are also Cause SCD. Syncope induced by cerebral ischemia due to a sudden decrease in cardiac output is cardiogenic syncope; patients with organic heart disease or left ventricular dysfunction should be highly alert to the risk of sudden death if syncope occurs; studies have shown: The incidence of SCD in patients with a history of syncope is approximately 45% within 1 year.

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3. Materials and Methods

From April 2015 to April 2016, 60 elderly patients with sudden cardiac death in our hospital were selected as the research objects. There were 34 male patients and 26 female patients; the patients were 51-78 years old, with an average age of (59.1) ±5.5) years; the course of illness is 3.5 to 15.3 years, with an average course of (7.5±2.2) years. All patients were admitted to the hospital for 24 h Holter examination and all received symptomatic treatment. Inclusion criteria: All patients meet the diagnostic criteria for coronary heart disease; clinical manifestations meet the diagnostic criteria for sudden cardiac death set by the WHO, and all deaths due to heart disease are unexpected within 24 hours of the onset of acute symptoms; no serious liver, kidney, etc. Major organ complications; no hematological complications; no previous mental illness history; willing to cooperate with data collection.

A retrospective analysis of the clinical data of 60 elderly patients with sudden cardiac death in our hospital from April 2015 to April 2016, including the gender, age, course of disease, electrocardiogram diagnosis results and various vital indicators of elderly patients During the treatment period, the imaging examination results, medication indicators, autopsy results, etc., were collected by questionnaires to the family members by means of questionnaire surveys. The survey content included potential clinical risk factors during the patient's hospitalization, such as history of alcohol abuse, smoking history, and whether mood swings, whether the living habits are regular, whether strenuous exercise and whether the bowel movement is too hard, etc., conduct a detailed analysis of the questionnaire to explore the clinical causes of sudden cardiac death in elderly patients during treatment, and formulate a symptomatic treatment plan.

4. Analysis of Statistical Results

Among the 60 elderly patients in this group of study, sudden cardiac death occurred with a clear underlying disease. Among them, 21.7% of coronary heart disease, rheumatic heart disease accounted for 16.7%, hypertensive heart disease accounted for 15.0%, and dilated heart disease. Diseases accounted for 11.7%, 4 diseases accounted for 65.1% of sudden cardiac death patients, and 88.5% (46/52) of all sudden cardiac deaths caused by cardiac diseases, indicating that the vast majority of sudden cardiac deaths All are caused by coronary heart disease, rheumatic heart disease, hypertensive heart disease and dilated heart disease, and patients with heart failure and hypertension are more likely to cause sudden cardiac death. On the basis of other diseases, old age Patients often cause sudden cardiac death due to ventricular tachycardia and arrhythmia, as shown in Table 1.

Table 1 Causes of Sudden Cardiac Death in Patients [n (%)]

	Case	Proportion
Coronary Heart Disease	13	21.7%

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Rheumatic heart disease	10	16.7%
Hypertension heart disease	9	15.0%
Dilated heart disease	7	11.7%
Hypertrophic cardiomyopathy	4	6.6%
Cor Pulmonale	2	3.3%
Aortic dissection	1	1.7%
Acute myocarditis	3	5%
Infective endocarditis	1	1.7%
Others	3	5%
TTL	60	100%

Middle-aged and elderly people are a frequent group of acute heart disease, and the incidence of sudden cardiac death in elderly patients in my country is showing an increasing trend year by year. Sudden cardiac death is the main cause of death in elderly patients during treatment. It is often caused by factors such as severe ventricular arrhythmia. Therefore, the onset is rapid and the disease progresses rapidly. Untimely treatment may pose a serious threat to life. This group of studies found that among the 60 elderly patients in this group of studies, sudden cardiac death occurred with a clear underlying disease, of which 21.7% of coronary heart disease, rheumatic heart disease accounted for 16.7%, and hypertensive heart disease accounted for 15.0 %, dilated heart disease accounted for 11.7%, 4 diseases accounted for 65.1% of patients with sudden cardiac death, indicating that acute myocardial infarction, pulmonale, hypertrophic cardiomyopathy, acute coronary syndrome and other diseases are caused The main causes of sudden cardiac death in elderly patients. In addition, high blood pressure, emotional agitation, strenuous exercise, excessive smoking and drinking are also one of the factors that cause sudden cardiac death. The effects of many of the above factors can eventually promote elderly patients' sudden cardiac death is induced. Therefore, in clinical treatment and nursing work, attention should be paid to the treatment and nursing of basic diseases, monitoring the vital signs of patients, and actively preventing the occurrence and development of heart-related diseases. Through the investigation and analysis of the questionnaire, we can find that factors such as violent mood swings, strenuous exercise, history of drinking, smoking history, and forceful defecation can lead to myocardial electrical instability and directly induce sudden cardiac death. The analysis shows that the main cause of sudden cardiac death in elderly patients is emotional agitation, accounting for 33.3%. Drinking history and strenuous exercise account for 26.0% and 20.0% respectively, and other factors account for 21.7%. Compared with other factors, emotional agitation It is statistically significant ($P<0.05$). It shows that strenuous exercise, history of drinking, smoking, and forceful defecation can all induce sudden cardiac death, which seriously threatens the life safety of patients. Therefore, clinically, the elderly with a history of heart disease should focus on psychological care to help patients relieve psychological pressure and bad mood, and avoid huge mood swings. At the same time, the family members of the patients should be urged in clinical work to comfort and encourage the patients to actively participate in the treatment, minimize the mental stimulation to the elderly patients, and meet the patients' demands as much as possible, try to keep the patients comfortable, and pay attention to adjusting the diet structure and

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exercise. Ways to maintain smooth bowel movements, pay attention to work and rest, and avoid strenuous exercise. Under normal circumstances, the probability of sudden cardiac death in elderly patients in the Department of Cardiology is greater, and more clinical attention should be given.

The results of this group of surveys suggest that the probability of sudden cardiac death in elderly patients is the largest at 2 to 3 weeks after admission, accounting for 61.7%, while the probability of sudden cardiac death in 2 weeks and more than 3 weeks is relatively low; The time of sudden sexual death is mainly concentrated in the evening, and most patients have accidents around the early morning, accounting for 71.7%, which also indicates that night care should be paid attention to in clinical work, and the patient's heart frequency and basic vital signs should be paid attention to. Elderly patients in the cardiology department died within 1 to 2 hours after their condition deteriorated. The time between the sudden death of the patient and the critical illness was very short, indicating that the condition deteriorated rapidly. If timely treatment is not available, it will lead to heart failure. To sum up, the cause of sudden cardiac death is relatively complicated, and it may be caused by a combination of multiple factors. Therefore, during clinical treatment, we should pay close attention to the changes and development of the condition of elderly patients, and strengthen health education for elderly patients and their families. To guide them to develop healthy eating habits, exercise habits and other life indicators, avoid strenuous exercise and mood swings, maintain a positive and optimistic mood, pay attention to replenishing fiber and maintain smooth stools. If the patient is found to have changes or abnormalities in his condition, he should immediately Report to the doctor for treatment to reduce the adverse consequences of sudden cardiac death and other causes.

5. Conclusion

Sudden cardiac death has various complicated causes, and its main cause is the pathological changes of heart disease. As the patient’s hypertension, or combined myocardial failure, cardiomyopathy and underlying cardiovascular disease are the main causes of myocardial damage, abnormalities in the myocardium can easily form reentry, resulting in cardiac physiological dysfunction and arrhythmia, and cardiac fibrillation and tachy ventricular heartbeat. Patients in this group of sudden cardiac death have undergone a comprehensive treatment process, and their clinical symptoms have been significantly improved. But it did not fundamentally correct the underlying heart disease, and the root cause of sudden death is due to its recurrent high blood pressure and heart failure. Relevant data prove that with the increase of age, sudden cardiac death presents an increasing trend, so the focus of prevention and treatment should be placed on the elderly. This group of data shows that the elderly who have comorbidities or a history of basic heart diseases are those who are prone to sudden cardiac death. Therefore, we must have a foreseeable and objective analysis, strengthen monitoring at night, and control the occurrence of SCD.

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