

Specific Information about Cardiac Neurosis and Treatment and Prevention

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Abstract. Heart disease has plagued mankind since the earliest times. There are some common heart conditions like coronary heart disease, congenital heart disease, hypertensive heart disease and so on. These heart sicknesses afflict people of all ages. There is a people around who have heart disease, but don't hear about it often compared to others. She thought it was just a faster heartbeat until she was diagnosed, and then a variety of symptoms occurred that were more severe before she was diagnosed with cardiac neurosis. This disease can also occur at different ages, many behaviors and different other sicknesses have an impact on it as well. How do we recognize these symptoms as indicative of cardiac neurosis, and what can we do to prevent and treat the disease once it has been diagnosed? With these questions I want to learn more about this disease and let more people know this disease.

Keywords: Cardiac neurosis, mental health, treatment.

1. Introduction

There is an essays on the effect of glycemic stability on cardiac autonomic function in patients with diabetes mellitus. 200 patients with type 2 diabetes mellitus were selected and underwent continuous blood glucose monitoring for 72 h. According to the stability of blood glucose, 90 patients were divided into the stable group (standard deviation of fasting blood glucose ≤ 1.4 mmol/L) and 110 patients in the fluctuating group (standard deviation of fasting blood glucose > 1.4 mmol/L). 24-hour ambulatory electrocardiogram was performed on the patients in both groups, and the patients in the fluctuating group were randomly divided into 55 patients in each of the two groups, and patients in the fluctuating group stopped using glucose-lowering drugs 24 h before the test, and were given insulin pumps (Medtronic Paradigm) according to the doctor's instructions. The patients in the fluctuation group were randomly divided into 55 patients in group A and 55 patients group B. The patients in the fluctuation group stopped the use of hypoglycemic drugs 24h before the test, and the patients were given to wear insulin pumps according to the doctor's instructions, and the insulin dosage was set and adjusted, and the care of group A was carried out based on the care of group B. The heart rate variability and blood glucose values before and after care were compared. [Results] All HRV indexes of patients in the fluctuation group were lower than those in the stable group ($P < 0.05$). The blood glucose values of patients in group A were lower than those in group B after nursing care, and the changes of blood glucose before and after nursing care in group A were larger than those in group B ($P < 0.05$). The conclusion is that fluctuating hyperglycemia can induce cardiac autonomic neuropathy [1]. Not only foe the diabetes, also autonomic dysfunction will influence the cardiac neurosis. Autonomic dysfunction is a common non-motor symptom of Parkinson's disease, and its prevalence increases with the progression of Parkinson's disease. Autonomic dysfunction often involves the heart, leading to cardiovascular dysregulation and a series of clinical symptoms [2]. The last example for cardiac neurosis with other diseases is depression. The standard deviation of normal cardiac cycle, standard deviation of mean value, standard deviation of intervals, and root mean square of adjacent intervals of depression were lower than those of the control group ($P < 0.05$ or 0.01); the levels of low-frequency power, high-frequency power, and low-frequency power/high-frequency power of the depression group were lower than those of the control group, and the differences of the frequency domain indexes of the variability of the heart rate of the subjects of the two groups were all statistically significant ($P < 0.01$). Conclusion: Depressed patients with significant impairment of

cardiac autonomic function and a higher incidence of arrhythmia are prone to cardiovascular diseases [3]. Next is the behaviors, Smoking is associated with a significant increase in sympathetic activity, a significant decrease in parasympathetic activity, and a decrease in heart rate variability. Smoking has a significant effect on cardiac autonomic nerves. The effects of smoking on cardiac autonomic nerves, especially on parasympathetic nerves, should not be overlooked. The mechanism may be related to the involvement of nicotinic cholinergic receptors in parasympathetic ganglionic transmission [4]. In recent years, studies on the association between vitamin D and cardiovascular diseases have gradually attracted attention. 1,25-(OH)₂D participates in the regulation of the renin-angiotensin system and exerts vascular effects, and its deficiency can lead to secondary hyperparathyroidism, hypertension, diabetes mellitus, dyslipidemia, which further affects the incidence of cardiovascular diseases and the prognosis of cardiovascular diseases. Studies have confirmed that vitamin D deficiency is prone to cardiac autonomic dysfunction, which is one of the risk factors for autonomic dysfunction diseases such as upright hypotension, but the mechanism is not completely clear. Vitamin D supplementation reduces the risk of cardiovascular disease in vitamin D-deficient populations [5]. Based on these cases, in what follows, this essays will introduce more information about this disease, there are four aspects, which are pathogenesis, characterization, treatment and prevention in the introduction part.

2. Four aspects of cardiac neurosis

2.1. Pathogenesis

There are many reasons that can cause cardiac neurosis, they are divided into six categories. Initially, if some of the family members have some sickness such as Schizophrenia, mood disorders, personality disorders, mental retardation, etc., or they directly from this disease. Their offspring will be likely to develop cardiac neurosis. But the studies in cytogenetics and molecular genetics have not yet yielded conclusive results. Moreover, heritability is formed by the interaction of "innate acquired" and "acquired", so the manifestation of heritability is directly related to the impact of the social environment on the patient before and at the time of onset. With the faster pace of life, the increasing pressure of life, the competition for jobs has increased, academic pressure and so on. These create huge stress on each individual. People may feel nervousness and anxiety, and if this mood lasts a long time can cause a psychological load. With the appearance of symptoms of insomnia, The heart does not have enough time to get rest then the heart will increase. In the long run, it is a big damage to your body. Cardiac neurosis also may occur. This bad situation is the social element why more and more people are replacing this disease. It is worth noting that adolescents make up the majority of sick people, one of the reasons for this phenomenon is age. Teenagers' physical and mental development is not mature, so they lack the ability to self-control their emotions and behaviors; at the same time, because they maintain childish emotions, behaviors, and primitive reflexes, they are less able to adapt to the external environment. In puberty, due to the continuous development and maturation of the endocrine system, especially the gonads, will experience instability of the vegetative nervous system, manifesting abnormal mood swings, and they are extremely sensitive to the influence of external stress factors. However, everyone has different strengths of response, speed, arousal and mood index of things. The pressure that the heart- afford will not be the same. This influences the chance of getting sick too which is called quality factors. Sex is the penultimate factor. In women, the endocrine and certain physiological processes of the gonads and other characteristics can cause clinical manifestations such as emotional instability, impulsivity and anxiety. This is related to the central nervous inhibition of prolactin secretion. Women such as menorrhagia or lactation and other phenomena, will feedback to the central nervous system and promote the body of prolactin rise, which will often be accompanied by anxiety, depression, loss of energy and reduced tolerance to stress and other symptoms. Men are often affected by alcohol and tobacco, and the body's blood testosterone level will be reduced to induce the occurrence of depression in men. These symptoms all will cause cardiac neurosis. The final element is biological, lesions in other parts of the body can also affect the

central nervous system and cause psychiatric disorders. Such as brain infection, tumor, trauma, hemorrhage, poisoning, degeneration, nutritional metabolism, psychoactive substances and other organic lesions. These six elements prove that cardiac neurosis is always accompanied by some negative emotions or mental illness, the same point is that both of them let the heart exert too much pressure then may cause cardiac neurosis [6-7].

2.2. Characterization

Following is the feature expression of the cardiac neurosis. The mechanism of heart rate abnormalities in cardiovascular phytoneuropathy, which includes tachycardia and heart rate fixation in the quiet state, may be explained by two possible explanations: first, it is believed that the vagus nerve is mildly damaged and the sympathetic nerve is normal in the early stage, and second, it is believed that both the vagus nerve and the sympathetic nerve have been damaged. Also cardiac neurosis and lesions of the heart can cause changes in blood pressure, mainly hypertension and orthostatic hypotension. The first is orthostatic hypotension, also known as Shy-Drager syndrome, which is a progressive degenerative disease of the nervous system with orthostatic hypotension as the main symptom. Patients may have vascular innervation disorders, increased responsiveness to some vasoconstrictor substances or some local vasospasmodic symptoms, and may have other symptoms of autonomic nervous system impairment [8]. The second is neurogenic hypertension, which is mainly caused by changes in the circulatory reflex and its central regulatory function. There are the following clinical findings: (1) hypertension caused by increased intracranial pressure and brainstem compression; (2) hypertension caused by cerebral ischemia; (3) hypertension caused by a cerebrovascular accident; (4) hypertension in polio and encephalitis; (5) hypertension at the time of seizures; (6) High blood pressure caused by mental and emotional tension or conditioned reflexes. Also, there are some studies believe that the autonomic nervous system can affect ventricular diastolic function, and sympathetic nerves have a greater impact on ventricular diastolic function, and the mechanism may be: (1) autonomic dysfunction, in vivo CA increases, so that cells are damaged, mitochondrial oxidation process decreases, ATP production decreases; (2) Due to abnormal mitochondrial Ca²⁺ transport in the sarcoplasmic reticulum, intracellular Ca²⁺ overload, myocardial cell hypoxia leads to myocardial necrosis and fibrosis, thereby causing cardiac diastolic insufficiency. In addition, diabetic autonomic neuropathy can lead to a significant decrease in exercise load tolerance, and graded exercise tests have found that the more severe cardiovascular autonomic neuropathy, the more obvious the decrease in cardiac function and peripheral resistance, and the more obvious the abnormal heart rate changes[9]. With these, we know that cardiac neurosis is not just a non-organic change, but can affect the conduction, contraction, and other functions of the heart. Severe cases can cause sudden death and myocardial infarction, so it should be treated as a disease and given appropriate attention and treatment.

2.3. Treatment

There are also plenty of treatments to cure, both medication and psychotherapy can be very helpful in curing this disease. For instance, the Huanglian Wendan Tang, Stabilize the pellets, musicotherapy and so on. In 48 cases of cardiac neurosis treated with Huanglian Wendan Tang, 21 inpatients and 27 outpatients, 22 males and 26 females. The youngest age is 17 years old, the maximum is 59 years old, and 17~12 cases at the age of 30, 19 cases at the age of 31~40, 11 cases at the age of 41~50, and 6 cases over 51 years old. The shortest course of the disease is 2 months and the longest is 15 years. Most cases are poorly treated with Chinese and Western drugs. Cases are selected according to the diagnostic conditions specified in the Diagnostic Criteria for Cardiovascular Disease[10]. In all cases, electrocardiogram, ambulatory electrocardiogram, echocardiography and other examinations excluded organic heart disease and anemia, hyperthyroidism and other diseases. Clinical manifestations: palpitations, chest tightness, some cases chest pain, shortness of breath (mostly paroxysmal), every attack due to emotional excitement, fright or labor, accompanied by insomnia, forgetfulness, irritability, dizziness, tinnitus and other symptoms, and even sudden fainting. There

were 16 cases of sinus tachycardia, 8 cases of atrial premature beats, and 4 cases of atrial fibrillation. With the treatment of Huanglian Wendan Tang for fifteen days, 24 cases were cured, accounting for 63.5%. Nine cases improved, accounting for 23.5%. There were 5 cases of invalidity, accounting for 13%. The overall effective rate was 87%, with a minimum of 8 days and a maximum of 45 days, with an average of 24 days[11].

Then there are 100 patients with cardiac neurosis with arrhythmia were randomly divided into two groups, 50 patients in the observation group were treated with heart stabilization granules on the basis of conventional treatment, and 50 patients in the control group were treated with conventional treatment. The clinical symptoms, arrhythmias, P ripple and Q-T dispersion changes of the two groups before treatment and 4 weeks after treatment were observed. Results The number of episodes of atrial premature beats and ventricular premature beats decreased significantly after treatment in the observation group, and the dispersion of P and Q-T was significantly reduced. And the observation group improved significantly better after treatment than the control group[12].

Another way to treat it is musicotherapy, thirty patients with cardiac neuropathy underwent a comprehensive psychological self-rating scale (SCL-90) test, and then compared before and after music care. Results Before music treatment, 83.3% of patients with insomnia decreased to 26.7% after music treatment. 73.3% thought that others did not understand and did not sympathize with her, and it dropped to 20% after music care; Stress and fear symptoms were 83.3%, 76.7% before treatment, while music symptoms dropped to 50%, 43.3%; 66.7% of patients with anxiety and instability dropped to 33.3% after music nursing. In conclusion, music nursing has a close relationship with insomnia, depression, agitation, agitation, disturbability, nervousness and anxiety in patients with cardiac neurosis, especially under the guidance of psychological nursing[13].

2.4. Prevention

Finally, there is the prevention of cardiac neurosis. This sickness has a very close relationship with physical fitness, age and mental stress. There is a test about how much exercise influences cardiac neurosis. Through the time-domain and frequency-domain analysis of static heart rate variability in 16 basketball athletes and 16 ordinary college students, the effects of long-term exercise on cardiac autonomic nerve function were observed, and the physical function of athletes was grasped. The results showed that the quiet heart rate of basketball players was lower and the temporal domain index of heart rate variability was more obvious. The frequency domain results showed that the static sympathetic activity was enhanced and the vagus nerve tension was weakened. The HF (high-frequency component)/LF (low-frequency component) ratio increased significantly, indicating that the autonomic neuromodulatory function of the basketball player's heart was enhanced[14]. Therefore, it is essential for people to do regular sports to make the hearts stronger. But exercise must be within your tolerance, over-exercise can also cause a lot of damage to the heart. As we age, the heart also enlarges slightly, the walls thicken, and the chambers enlarge slightly. These changes in the heart are due to the increase in the size of individual cardiomyocytes. The thicker the heart wall, the more likely it is to become stiff, which prevents the chambers from filling enough blood before each ventricle pump. So regular check-ups are a great way to prevent it. According to the previous information, it can be seen mental pressure is a vital causative cause. When it is stressful, people can choose to go traveling or do some exercise. Both of them are very useful for reducing stress. Or you can talk your worries to someone you trust or ask them for help. Of course, there are more than these ways, and the most important thing is to stabilize yourself. If symptoms such as self-harm, insomnia, and persistent low mood occur, please consult a psychologist as soon as possible and do not wait for these symptoms to cause irreversible damage to the body. In daily life, you need a healthy diet and routine, eat less food that will burden your heart, and less smoking and drinking. And get enough sleep to give your heart enough time to rest.

3. Conclusion

Treatments for cardiac neurosis have many limitations. Because of many different contributing factors in the treatment of a disease, sometimes the drug treatments are not very useful for this, they only can only relieve the symptoms, not cure them. It is more commonly caused by psychological factors and lifestyle habits. Mental illnesses are harder to change than lifestyle habits, the mental and physical torture is very painful for the patient. Going to treatment for a mental illness is another long process that can be a big blow to both the patient and his family. The lifestyle habits are more easy to change. However, the most difficult to change is this need to stay up late to catch the time to work, and can only eat fast food and lead to this disease, they often need this work to get money to live, to stop this habit may also make them not have the conditions to go all the way to this disease. This disease also has the potential to recur, so it's important to focus more on prevention. Outlook for the future, the state has also provided more funds and manpower to research treatment methods, and more and more specialized doctors are popularizing people about cardiac neurosis. So please pay more attention to your own health and the health of those around you, even if it's just a minor illness. Eliminate bad eating especially for cigarettes, and alcohol these demerit goods.

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