

Study on the Etiology and Prognosis of Ischemic Stroke

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Abstract: To explore the etiology and related risk factors of young and middle-aged patients with ischemic stroke in this area. Methods A retrospective analysis of 142 middle-aged and young patients with ischemic stroke and 160 cases of elderly ischemic stroke patients admitted to our hospital from 2012-01 to 2015-06 was conducted to collect relevant clinical data and perform TOAST etiology classification; A comparative analysis of young and middle-aged health examinees was conducted to discuss the risk factors of onset. Results Aortic atherosclerosis is the main cause of ischemic stroke in young and middle-aged people in this region; the proportion of unexplained ischemic group in young and middle-aged is significantly higher than that in elderly ischemic group, the difference is statistically significant ($P < 0.05$). Compared with the young and middle-aged ischemia group, the difference between hypertension, hyperlipidemia, diabetes, long-term smoking history, long-term drinking history, heart disease, and Hcyemia was statistically significant ($P < 0.05$). Compared with the elderly ischemia group, the proportion of diabetes, heart disease, and men was statistically significant ($P < 0.05$). Logistic regression analysis showed that high blood pressure, hyperlipidemia, diabetes, long-term smoking history, and heart disease are independent risk factors for inducing ischemic stroke in young people. Conclusion Aortic atherosclerosis is the main cause of ischemic stroke in middle-aged and young people in this area. Smoking, hypertension, hyperlipidemia, diabetes and heart disease are the main risk factors.

1. Introduction

Stroke is a cerebrovascular clinical event generally caused by acute onset, brain function defects caused by stenosis, closure or rupture of intracranial blood vessels. It includes ischemic stroke and hemorrhagic stroke, among which hemorrhagic stroke has a high disability rate and fatality rate and is highly valued. Among them, hemorrhagic stroke includes subarachnoid hemorrhage and cerebral hemorrhage, accounting for about 20% of strokes. With the acceleration of the pace of life of modern people and the unhealthy habits of young people, the incidence of cerebrovascular disease among young people has increased. Hemorrhagic stroke has gradually become an important disease that threatens the health of young people. In terms of clinical characteristics, etiology, risk factors, mortality and elderly are different. More and more studies have shown that the influencing factors of hemorrhagic stroke in young people include not only aneurysms, arteriovenous malformations, abnormal blood composition, cardiogenicity and other uncontrollable factors, but also a large part of the occurrence of cerebrovascular diseases and hypertension, High blood lipids, smoking, drinking and other controllable factors, so it is important to recognize the high-risk factors and causes related to it, to prevent disease, census and treatment in advance, reduce the occurrence of cerebrovascular events, and reduce the mortality and disability rate. significance. Regarding hemorrhagic stroke in the young age range, some domestic and foreign research standards are different. More studies have defined hemorrhagic stroke as youth hemorrhagic stroke from 18 to 45 years of age. Through literature review, it has been found that the epidemiology and risk factors of hemorrhagic stroke have been extensively studied at home and abroad. However, the analysis of youth hemorrhagic stroke is still small. Prospective cohort studies have irreplaceable advantages, but they also have long cycles, large sample sizes, human resource consumption, and other difficulties. Retrospective research, despite its many limitations, but because of the time-saving and non-injury patients, the simultaneous analysis of the impact of multiple factors can provide a scientific basis for further prospective research, so it is widely used in medical research. Therefore,

we set up a retrospective clinical analysis. This article aims to collect and select detailed medical records of 415 young patients with hemorrhagic stroke hospitalized in our hospital from January 2000 to December 2013, using retrospective analysis methods to explain the epidemiology of young hemorrhagic stroke patients, Etiology analysis, high-risk factors, DSA performance and recovery to guide their treatment and provide a basis for the prevention of high-risk groups. Ischemic strokes are more common in the elderly, but in recent years the incidence of ischemic stroke in young and middle-aged people has increased year by year, accounting for 30% to 38% of the total number of ischemic strokes, and its high disability rate and fatality rate are a serious threat the health of young and middle-aged people. Compared with elderly ischemic stroke, the etiology of ischemic stroke in young and middle-aged people is more complicated, and some of the causes can be prevented by targeted treatment. At the same time, the etiological composition and risk factors of patients with ischemic stroke have obvious regional differences. This study retrospectively analyzed the relevant clinical data of 142 cases of young and middle-aged ischemic stroke patients admitted to our hospital from 2012-01 to 2015-06, and explored the etiological composition and related risk factors of young and middle-aged ischemic stroke in this area. Provide reference for the intervention of middle-aged and high-risk groups.

2. Materials and Methods

A total of 142 patients with acute ischemic stroke aged 18 to 60 years who were admitted to our hospital from 2012-01 to 2015-06 were selected as the young and middle-aged ischemic group, with 106 males and 36 females, aged (47.3 ± 7.1) year old. In the same period, 160 patients with acute ischemic stroke whose age of onset > 60 years were admitted to our hospital during the same period were selected as the elderly ischemia group, 92 males and 68 females, aged (65.7 ± 3.5) years. A total of 280 healthy people who were 18 to 60 years old in our hospital were selected as the control group of young and middle-aged men, 220 males and 60 females, aged (36.9 ± 6.8) years old; gender composition and average age with the young and middle-aged ischemic group The difference was not statistically significant ($P > 0.05$). TOAST Etiology classification: Collect the head imaging data, head and neck blood vessel ultrasound, echocardiography, transcranial Doppler ultrasound, laboratory examination data of the selected ischemic stroke patients, and combine the patients' clinical symptoms with TOAST Types of etiology include cardioembolism (CE), aortic atherosclerosis (LAA), small artery occlusion (SAO), unexplained (UND), and other causes (OTH). Risk factor assessment: With reference to previous studies and clinical experience, this study compared the young and middle-aged ischemia group with the young control group, the young and middle-aged ischemia group and the elderly ischemia group, including hypertension, hyperlipidemia, Diabetes, long-term smoking history, long-term drinking history, heart disease, Hcyemia, family history of stroke, migraine. Statistical analysis was performed using SPSS15.0 software. The measurement data was expressed as mean \pm standard deviation ($\bar{x} \pm s$), and the t test was performed; the count data was subjected to χ^2 test; multivariate correlation was analyzed by Logistic regression, with $\alpha = 0$ Calibration level.

3. Results and Discussion

The proportion of LAA type in the young and middle-aged ischemic group was the highest, and the ratio of the UND type was significantly higher than that in the elderly ischemic group, the difference was statistically significant ($P < 0.05$); there was no statistically significant difference between the 2 groups in the CE, LAA, SAO, OTH Significance ($P > 0.05$). There is statistical significance in the comparison of hypertension, hyperlipidemia, diabetes, long-term smoking history, long-term drinking history, heart disease, and Hcyemia between the young ischemia group and the young and middle-aged control group ($P < 0.05$). There is a statistically significant difference in the proportion of diabetes, heart disease and men between the young and middle-aged ischemia group and the elderly ischemia group ($P < 0.05$). The 7 factors with statistically significant differences between the young and middle-aged ischemia group and the young control group were

used as independent variables, and whether or not ischemic stroke occurred as the dependent variable. Blood sugar, diabetes, long-term smoking history, and heart disease are independent risk factors for inducing ischemic stroke in young people (OR values are 2.486, 3.225, 3.784, 4.387, 5.016, P all <0.05).

In recent years, the incidence of ischemic stroke in young and middle-aged people in China has increased year by year, and there are differences in reports on the etiology and risk factors of young and middle-aged ischemic stroke in different regions. This area is one of the regions with high incidence of stroke in China, and it is of great significance to analyze the causes and risk factors of ischemic stroke in middle-aged and young people in this area. This study shows that the young and middle-aged patients with ischemic stroke in this area are the most common type LAA, followed by the type SAO, which is inconsistent with the relevant research reports. This shows that the etiology of young and middle-aged patients with ischemic stroke is diverse, and is greatly affected by region, race, lifestyle, and exposure factors. Although the proportion of LAA type is the highest in the young and middle-aged group and the elderly group in this study, there is still a significant difference in the proportion of the UND type, indicating that the young and middle-aged patients with ischemic stroke have special characteristics in terms of etiology and risk factors. There are many types of risk factors for ischemic stroke in young and middle-aged people. This study shows that hypertension, hyperlipidemia, diabetes, long-term smoking history, and heart disease are the high-risk factors that induce young ischemic stroke in this region. Among them, smoking and hyperlipidemia can lead to abnormal levels of lipid metabolism in the body, increase blood viscosity and blood vessel wall damage risk, promote the formation of atherosclerotic plaques, induce platelet aggregation, and ultimately lead to the occurrence of ischemic stroke. Related studies have shown that hypertension is the most common risk factor for ischemic stroke in young and middle-aged people, followed by a long-term smoking history, hyperlipidemia accounts for only 5.1%, which is different from the results of this study. Different habits are related. The proportion of young men with ischemic stroke in this study was significantly higher than that of middle-aged and elderly patients. This is related to the higher exposure rates of young men in risk factors such as smoking and high-fat diet than elderly men. In addition, the proportion of heart disease and diabetes in elderly patients with ischemic stroke has increased significantly, which is related to the gradual decline of body function with age.

Multiple stroke database data reported that the central embolic type of T OA ST subtype had the highest mortality rate, the worst condition in the hospital, and the worst prognosis; while the small arterial occlusion type was the opposite, with the least death, the mildest condition, and the most prognosis. Well, similar to our research. The reason may be related to the different pathophysiological mechanisms of the two types of stroke. Small arterial occlusive strokes are mostly caused by deep perforator lesions of small arteries caused by hypertension, diabetes, etc., with small lesions and less damage. Cardioembolic strokes are mostly caused by embolization of larger arteries, with large lesions and serious damage. This has been confirmed by autopsy results of patients with ischemic stroke. Compared with similar studies abroad, this study has a lower recurrence rate, which may be related to the smaller number of samples and the shorter follow-up time. In addition, it may also be related to ethnic differences, different methodologies, and selection bias of the research object, which needs further study. The T o A sT classification method is currently widely used in the world for the etiological classification of ischemic stroke, and it has attracted more and more attention in China. The results of this study suggest that the following issues should be noted when using this classification: (1) Comprehensive and careful understanding of classification, researchers should undergo unified training, unified opinions on confusing issues in classification, and establish an operator manual , To guide research. (2) Auxiliary inspections are as complete as possible, reducing the number of unexplained types that have not been increased due to no inspections, so that the classification is accurate and reliable. (3) Hospital-based research has a problem of admission rate bias. Under conditions, it is best to carry out community-based research or multi-center large sample research to reduce bias and obtain more reliable Conclusion

4. Conclusion

In recent years, the proportion of young hemorrhagic strokes in hemorrhagic strokes has increased year by year. The proportion of internal hemorrhagic strokes in the age group of young patients increases with age. It is more common in males, mostly in winter and spring. Hypertension is the most important cause of hemorrhagic stroke in young people, and aneurysm and arterial malformation are the second factors. Smoking, drinking, hypertension, hypercholesterolemia, family history of stroke, and previous history of stroke are risk factors for the disease. The mortality rate of hemorrhagic stroke in young people is 25.30%. Cerebral hernia and central respiratory failure are the leading causes of death. The mortality rate of multifocal cerebral hemorrhage caused by blood diseases is very high. Most young people have a better prognosis for hemorrhagic stroke.

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