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Influence Of Alcohol Consumption On The Development Of Brain Insult (Literature Review)

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Abstract:: This article analyzes the negative impact of alcohol consumption on human health, especially on the brain and its circulatory system. In particular, the relationship between alcohol products and cerebral strokes is highlighted based on scientific sources. Alcohol consumption leads to increased arterial pressure and increased blood clotting, which can lead to cerebral stroke. The article also provides recommendations for the prevention of stroke through the formation of a healthy lifestyle and the cessation of alcohol use. Research on this topic confirms that serious complications can be prevented by reducing or completely stopping the consumption of alcoholic products.

Keywords: ischemic stroke, hemorrhagic stroke, alcohol, atherosclerosis, vascular endothelium, brain, risk factors.

Cerebral strokes remain one of the most pressing and problematic diseases among all neurological diseases. It is well known that it often leads to death or serious physical disability. Due to the fact that many countries around the world are experiencing an epidemiological transition period, the trends in the spread of stroke have changed dramatically. [15]. In recent years, the number of stroke cases and related deaths has been increasing, especially in economically developing countries [24,28].

How does the consumption of alcoholic products affect the risk of stroke? This question has long intrigued scientists and healthcare professionals. There are different opinions about the effects of alcoholic beverages on the cardiovascular system. On the one hand, it has been shown that moderate alcohol consumption can reduce the risk of myocardial infarction[11], but there are opinions that the relationship between alcohol

consumption and stroke is not clear. On the other hand, there is evidence that excessive alcohol consumption can increase the risk of stroke.

In this article, we explore how different levels and types of alcohol consumption affect the risk of stroke, as well as the methodological features of research on this topic.

There are differing opinions about the impact of alcohol consumption on types of brain strokes. It has been noted in many studies that consuming large amounts of alcoholic products can increase the risk of ischemic stroke [5]. However, there is also evidence that moderate alcohol consumption can reduce this risk [20,29]. This is described as a direct relationship, meaning that if alcohol consumption is not excessive, the risk of ischemic stroke decreases, but excessive consumption increases this risk.

Consumption of large amounts of alcohol can significantly increase the risk of hemorrhagic stroke [3,25]. In particular, excessive drinking increases the risk of parenchymal and subarachnoid hemorrhages [6].

There are also differing opinions about the influence of different types of alcoholic products on the development of brain strokes. Red wine is rich in various phenolic compounds, which have antioxidant properties. These compounds are low-density lipoprotein (LDL), preventing cholesterol oxidation and slowing down the development of atherosclerosis [16]. Also, red wine polyphenols help maintain the health of vascular walls by stopping the sclerosis of vascular smooth muscle cells [7]. The Copenhagen City Heart Study showed that wine consumption is associated with a reduced risk of ischemic stroke, but beer or alcohol was found to have no such effect [27].

The evidence regarding the effects of beer and alcohol on stroke risk is contradictory. Some studies show that they can reduce the risk of ischemic stroke [13,17], while others did not find such a relationship [10,19]. The components and consumption pattern of these drinks may have led to the contradiction of the above opinions.

Many researchers collect information about people's alcohol consumption by directly questioning them. However, the reliability of this method is questionable, as

they can understate or overstate the quantity consumed [12]. In addition, alcoholics often deny that they drink too much[21].

Biological indicators can be used for an objective assessment of alcohol consumption. For example, an increase in the level of gamma-glutamyl transferase (GGT) in urine indicates an increase in alcohol consumption[1]. Transferrin, associated with carbohydrate deficiency, also serves as an indicator of alcohol consumption [8,30].

There are also differing opinions about the mechanisms of the influence of alcohol consumption on the human body .

Alcohol consumption can increase blood pressure. High alcohol consumption increases the risk of hypertension, which is the main risk factor for stroke [9,23].

Alcohol affects the blood coagulation system, altering the functions of platelets. Moderate alcohol consumption can reduce blood clotting and increase fibrinolysis, which can reduce the risk of ischemic stroke[18]. However, excessive alcohol consumption increases blood clotting and the risk of thrombus formation.

The antioxidants contained in red wine and some other alcoholic beverages can reduce the effect of oxidizing agents. This can slow the progression of atherosclerosis and reduce the risk of ischemic stroke[4].

However, the risk factors for stroke may have been influenced not only by the consumption of alcoholic products, but more by lifestyle and social factors. That is, wine drinkers can often lead a healthy lifestyle, such as following a healthy diet and being physically active [26]. These factors are likely to confuse the link between alcohol consumption and stroke risk.

Many of the conducted studies are mainly observational in nature, in which it is very difficult to determine the main cause. Further research and cohort studies will help to better assess the relationships by observing participants for a certain period of time [22].

It is very important to control the factors influencing or misleading the results in research. Factors such as smoking, diet, physical activity, and body mass index also affect the risk of stroke, and they must be taken into account [14].

Conclusion.

1. Thus, the evidence of the relationship between the consumption of alcoholic products and the risk of stroke is quite contradictory, which depends on many factors. Consuming large amounts of alcohol increases the risk of ischemic and hemorrhagic stroke. Low or moderate alcohol consumption, especially wine consumption, may reduce the risk of ischemic stroke, but this conclusion may be influenced by misleading factors.

2. Future research should be methodologically sophisticated to further clarify the impact of different levels and types of alcohol consumption on stroke risk. Only then can effective recommendations for public health be developed.

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