

The Mechanism of Brain Strokes and Heart Attacks May Be the Same

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Abstract:

Goals: The main goal of all researchers of atherosclerosis, strokes and heart attacks is the same - to find the cause and mechanism of these diseases. Thanks to this, in the near future, it may be possible to postpone the onset of old age, reduce the number of cardiovascular diseases, and increase the duration of an active human life. Method: Studying information on the Internet, participating in medical conferences, publishing articles. Results: In 2020, the cause of atherosclerosis was found: due to deformation (spasm) of the arteries due to loss of arterial blood volume. As further studies have shown, the discovered mechanism of atherosclerosis, as a response of the walls of the arteries to stress, is the main cause of many dangerous human diseases.

THE POSITION OF OFFICIAL MEDICINE ON HEART ATTACK AND BRAIN STROKE

Stroke and cardiovascular diseases are the two main causes of death in the world [1].

Other studies of recent decades [2] have demonstrated a close relationship between cardiac and cerebral pathology resulting from various cardiovascular diseases. In general, with a thorough examination, cardiac changes are detected in 75-80% of patients suffering from vascular pathology of the brain.

There are common pathogenetic mechanisms and risk factors [3] that cause simultaneous development of myocardial infarction and ischemic stroke, due to decompensation of systemic or regional blood circulation. Arterial hypertension is one of the main risk factors for myocardial infarction and ischemic stroke. In clinical studies, a direct correlation has been repeatedly proven between the risk of myocardial infarction, coupled with acute cerebrovascular accident and blood pressure levels.

It is known that everyone has atherosclerosis at one stage or another of its development. Atherosclerosis is a chronic vascular pathology that appears due to an imbalance in the metabolism of fats and proteins in the body and is accompanied by the accumulation of lipids with subsequent proliferation of connective tissue fibers in the vascular wall. The progression of atherosclerosis is accompanied by a violation of the elastic properties of the vessel, its deformation, narrowing of the lumen, and, consequently, a violation of patency for blood flow. (There are more than a dozen "theories" of atherosclerosis in medicine, but there has not been a unified theory of its occurrence at the moment.)

THE AUTHOR'S NEW THEORY OF ATHEROSCLEROSIS AND OTHER DISEASES

It is the pathological spasm of the arteries and subsequent atherosclerosis that shorten a person's life expectancy. But why do periodic spasms occur?

In 2020, a revolutionary theory of atherosclerosis appeared [4-7]. Of course, with atherosclerosis, no genetic metabolic disorder occurs in the vessels. The main thing is stress and low physical activity. When the level of blood pressure (BP) rises, large arteriovenous anastomoses (AVA) can open. This leads to the fact that in stressful situations, blood leaks from the arterial pool to the venous pool occur, while blood pressure decreases for a while. The volume of blood in the arteries decreases, and in the veins increases. And this is despite the fact that the left and right hearts throw out the same portions of blood with each beat. With continued stress, the decreasing volume of blood leads to spasm of both large and small arteries, because the volume of the arterial bed should exactly coincide with the volume of arterial blood. Blood behaves like a Newtonian viscous incompressible fluid. The arterial bed has elastic thick multilayer walls, and the walls have their own circulatory system.

Someday there comes a moment when the vessels of the arms and legs are subjected to spasm, the latter become cold. Further, if nothing is done, blood loss increases, a significant spasm spreads to all the arteries. Blood pressure is increasing, arterial blood loss is also increasing, blood pressure adjustments are going into "disarray", because it is becoming increasingly difficult to provide the necessary perfusion of cerebral or coronary circulation with a small volume of arterial blood, a hypertensive crisis with signs of a transient ischemic attack or a hypertensive crisis with signs of angina pectoris may occur. Both diseases may occur simultaneously. Who will be lucky, but there is one reason: a lack of arterial blood can lead to a hypertensive crisis with blood pressure up to 180-220 mm Hg.

The greatest influence of the general spasm (i.e., the decrease in the lumen of the arteries) falls on the walls of the arteries near and above the heart, especially in the areas of bifurcations, bends and other inhomogeneities of the arteries. This is because the pulse wave with negative pressure, following the wave with positive pressure, is the most "powerful" near the heart. The pulse wave in case of blood leaks "works" in the dangerous direction of "collapse of the walls" of some arteries.

Generally speaking, when there is a lack of blood, the multilayer walls of the arteries deform, they are stressed, they go into a non-equilibrium state during periods of diastole. The walls reduce the internal lumen of the vessel, they stretch in the transverse direction with a fixed size of the rigid outer layer (adventitia). In the middle muscle layer of the walls, due to the expansion of the volume of the walls, a pressure drop is created, stretching of muscle fibers and suction of fluid from the outside. Yes, that's right: stretched layers suck liquids inside the walls! Through the "holes" in the unicellular endothelium, the penetration of the smallest fractions of blood that are contained in arterial blood occurs. These fractions primarily include lipoproteins. It is the physical forces of absorption that "force" small lipoprotein molecules to penetrate into the walls of the arteries and "fix" there. In the zone of "fixing of foreign bodies" the inflammatory process begins. This is how atherosclerosis and plaques are formed. In parallel, varicose veins and blood clots may occur in the veins of the lower half of the body due to slowing down of movement and stagnation of the increased volume of venous blood.

Another reason for atherosclerosis is the "verticality" of the main arteries, including the aorta, of a person. A vertical column of fluid for an upright person creates forces of separation of the inner layer from the muscular layer of the artery, especially in the upper part of each vertically located artery. The inner layer (endothelium) gradually becomes tougher, because it is more often damaged, exfoliates, so traces of damage remain on it. Looking at the drawings of the aortic

incision of an adult, we can see where the greatest separation forces are created (on average): this is the upper side of the aortic arch! And this is what PHYSICS tells us! These forces are more powerful in tall people!

Thus, as the degree of systemic atherosclerosis increases in humans, the ischemia of many organs increases, including the myocardium, the brain, and other organs. Of course, ischemia of each organ has its own characteristics in terms of mental and physical effects on a person.

The main difference between which bouquet of diseases a person lives his life with is genetics, lifestyle, nutrition, climate, education, regularity of physical activity, etc.

Obviously, if the root cause of ischemic strokes and transient ischemic attacks [8, 9], on the one hand, and the root cause of angina and heart attack, on the other hand, are the same, namely, a decrease in arterial blood volume during stress and subsequent forced arterial spasm, then these two types of diseases will have a high degree of correlation among themselves. And not only brain and heart diseases are interconnected, but also other pairs: heart and kidneys, brain and kidneys, brain and lungs, cardiac fibrillation and cerebral ischemia...

Official medicine has not been able to explain the confirmation of significant correlations in these pairs for decades. This effect in modern medicine is shamefully disguised under the term "comorbidity" of many diseases or under the term "multifactorial" causes.

Meanwhile, the institute's medical scientists are looking for (and finding!?) signaling (toxic) molecules that transmit information about a "disaster" from one organ to other organs [1-3], but do not notice the main, common pathological cause for all organs.

CONCLUSIONS

This article is a description of the hypothesis of the relationship between brain strokes and heart attacks. So, why do CVD arise – there has been progress. How to treat patients - in accordance with the now known mechanism of CVD.

The opinion of Official Medicine for March 2023 is unshakable: most of the main human diseases are diseases with multifactorial causes, with significant comorbidity.

According to the New Theory, the main and ONLY cause is stress, which creates a shortage in the arterial bloodstream due to its leakage into the veins during periods of stress.

I suggest that medical scientists consider this hypothesis on its merits. E-mail at the top.

I (the physicist) hope that there will be brave medical scientists. And they will be able to interest or convince gray-haired academicians to change the institute's scientific plans at their scientific and technical councils. It is necessary to recognize the plausibility of the proposed hypothesis, to begin research. Meanwhile, the incidence of CVD, strokes and heart attacks continue to break records all over the world, and especially in Russia.

If there are people who are influential "at the top", regardless of their education and position, then I ask them to put in a word about a new theory where it will be appropriate. My efforts, at least

since 2020, in this direction give "zero" result. Some say that in medicine you have to wait 50 years until there are no opponents left.

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