

# The new theory of CVD continues the offensive: migraine is also due to anastomoses

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## Abstract

Some aspects of the new theory of CVD are considered. It turned out that in the causes and mechanism of the onset of many cardiovascular diseases, large arteriovenous anastomoses (AVA) are actively involved. This article discusses some controversial issues of the onset of migraine.

## Introduction

Before beginning of discussion of the issue of migraine, let us pay attention to the New Theory of Cardiovascular Diseases (CVD), developed by us [1-19]. Developing this theory, our group of researchers showed that the presence of large arteriovenous anastomoses (AVA) in the human vascular system and their suboptimal functioning can lead to many diseases: arrhythmia, heart failure, diabetes, capillary stasis, liver fibrosis, arteriosclerosis of vessels, certain types of cancer, systemic inflammation, diseases of the pelvic organs and others.

## Results

The need to open AVA's, apparently caused due to the sharp lifts of systemic arterial pressure (AP) during times of stress, with the large physical or psychological loads. After a part of the blood flows into the veins, BP decreases. The opening/closing of large AVA leads to a jump in blood pressure, it is the syndrome of "Ermoshkin-Lukyanchenko" [2]. It can be assumed, that a large AVA in a healthy person who is in a calm state should be tightly closed, because the energy of the heart pump should be used sparingly. Obviously, with prolonged open AVA, the myocardium performs additional useless work.

Another fact. Due to the decrease in the volume of arterial blood, there is an imbalance in the volumes of arterial and venous blood in the direction of an increase in the volume of venous blood. The increase in pressure in the venous system can lead to pulsations of the liver, overflowing of blood and further to pulsations the post of venous blood in the hollow veins. These pulsations during heart attacks can be observed on the cervical veins. Throbbing volume of venous blood exerts a mechanical effect on the right atrium, generates a mechanical wave traveling along the myocardium, which leads to mechanically induced arrhythmias, including paroxysmal atrial and ventricular tachycardias. The fluctuations of the column of venous blood correspond to the resonant frequencies of the cardiovascular system, therefore, the heart rate with tachycardia is quite stable, and the heart rate does not depend on the phase of respiratory movements. This type of myocardial arousal suggests that the sinus node for the period of a tachycardia attack is in a passive mode and is waiting for the first opportunity to take control of the triggering of cardiomyocyte excitation. In addition to the mechanical triggering of arrhythmia due to open AVA, there is an even more important supposed scientific discovery. After a while

after the opening of the AVA lumen, pressure increases not only in the hollow veins, but also in some groups of small veins and venules. Thus, from the point of confluence of AVA to the veins, the overpressure spreads not only upwards through the hollow vein to the right atrium and cervical veins, but also downwards, spreading, as the venous valves become damaged, more down and more down, to the smallest veins.

There is evidence that AVA can exist between the mesenteric artery and portal vein [20]. At the initial stage of hemostasis there are edemas, while the biochemical and mechanical properties of venous blood change, it becomes dense and dirty in the stagnation zones, its fluidity decreases. But as a normal, physically inactive person lives, day by day, the pressure gradient between some arterioles and venules remains critically small, which leads to a lack of perfusion of individual organs, to microscopic blockages of capillary circulation, scattered across tissues, to ischemia, to abdominal obesity, to oxidative stress. In fact, in critical cases blood slowed down their movement or stops and thought arteriola, and thought venules. There are swelling, leakage of blood through the thin walls of blood vessels. This pathology may eventually lead to the micro thrombosis of small vessels, and then to thrombosis of larger vessels, mainly the veins.

We emphasize that official medicine considers the opposite (that is, it rearranges the consequences and cause): first thrombosis, emboli, or some "obstacles" for the outflow of venous blood, and then an increase in venous pressure. This blatant mistake led to a long (over 200 years!) stagnation in medicine, to an incorrect explanation, for example, of the controversial "syndrome X" and "heart failure" (especially with a practically healthy heart), but none of the representatives of official medicine are not in a hurry to check and to accept the New Theory. Already almost 7 years this question is hanging in the air. In a person who leads a healthy lifestyles, significant blockages and stagnation of blood do not occur: the venous blood from the legs and from the pelvic area is pumped up by the muscles of the legs and muscles of the lower half of the body, due to the movements of the down-up respiratory

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diaphragm. Therefore, to maintain health, you need proper nutrition and daily exercise: swimming, gymnastics, special breathing and health practices, running, walking and others. Note here that stagnant blood during the night in young and healthy people is again involved in the bloodstream, but in the elderly for 7-8 hours does not have time, because the volume of stagnant thick blood is very large, and the strength of the heart is weaker. Let me remind you that in the horizontal position of the body the venous blood in all organs has a pressure approximately equal and close to zero.

This position of the body facilitates easy extraction of blood from stagnant zones only due to the work of the heart and moderate respiratory movements. This assumption partially explains why in the morning people have high blood pressure and the densest blood, why often in the morning hours there are events with fatal outcomes.

And now about the mysterious migraine. Migraine has been known about 3000 years. The famous English physician Oliver Sacks studied migraine [21-24] all his life. He participated in the observation and treatment of about 1200 patients. But the mechanism of the disease, he, like all other researchers, has not been established, because each case was basically unique.

So, here's what happens to the patient, here are the relevant observations of Oliver Sacks in the treatment of migraine. These data should be trusted, because averaging was done by one person on a very large amount of information. In brackets explanations are given from the point of view of the New Theory of CVD.

- 1) Fluid retention. (Explanation of New Theory. When you have open AVA, the blood flows from the arteries intensively to the venous channel. The volume ratio of arterial and venous blood becomes less than normal. The blood overflows not only the veins, but eventually the fluid fills all the free space between the organs (example: ascites), there is an increase in intercellular fluid in the organs, in the skin. The result is swelling, thrombosis, first in the lower half of the body, and then after several years in the upper half of the body.)
- 2) Thirst. (It is widely known that large "losses" of arterial blood always cause a general thirst, it is necessary to replenish the volume of arterial blood.)
- 3) Bloating of the intestines, digestive disorders. (AVA was found between the superior mesenteric artery and the portal vein [20]. Naturally, the pressure in the portal vein and in the entire portal pool is increased, since the venous or mixed blood from the AVA moves through the veins, not only forward to the heart, but also "back". In the absence of a pressure gradient between arterioles and venules, blood circulation slows down or even blocks, of course, not immediately, of course, not everywhere, of course, gradually. To not poison the body with standing and not advancing food, the body gets rid of the contents of the stomach. There are bloating and/or constipation.)
- 4) Raising or lowering arterial blood pressure. (When open AVA-blood pressure drops, when closed AVA-pressure can rise again. Jumps of pressure due to AVA is Ermoshkin – Lukyanchenko syndrome.)
- 5) Aura. (Aura occurs when elevated venous pressure reaches the neck and head levels, which happens most often in the lying position, because venous pressure in all organs is almost the same and close to zero. Of course, blockages of capillary circulation do not occur immediately and not on the whole brain, but only in separate groups of cells. Decreases occur in accordance with the "old age" of microvessels. Due to the fundamentally different pressure gradients

in microvessels feeding different groups of cells (because different lengths, transverse sections, stiffness of blood vessels). Topographies of micro-locks in different people occur in different ways, so the auras are not repeated in different people. The blockage of blood circulation in brain cells and in cells, for example, of the femoral muscle is very different. In the first case, a "colorful" aura or loss of consciousness, in the second, a slight tingling.)

- 6) The exact mechanism is unknown, but at the end of the attack there are abundant cold sweats and abundant urine excretion. (Naturally, in order to bring the ratio of fluid volumes to optimal, it is necessary to remove excess venous blood and excess cold intercellular fluid that are "eliminated from the body.")
- 7) Vomiting. (Because the passage of food through the intestines is blocked open AVA, there is creation of protection from poisoning: vomiting and aversion to food.)
- 8) The Pulsation of arteries and veins. (Venous pressure in the blood vessels of the brain increases, veins widened to the limit. Creation of headache. Perhaps there are open micro AVA and malformations. Capillary blood flow of the brain is impaired. This violation is not continuous, but fragmentary, mosaic, dotted. Perhaps most of the capillaries are working correctly. However, excess venous blood, excess tissue fluid, and a small gradient of pressures between arterioles and venules lead to increased intracranial pressure. A person begins to feel painful heartbeat in head. The same mechanical wave runs through the arteries and through the veins.)
- 9) Intensive exercise leads to the removal of symptoms of migraine. (Sudden movements, sudden changes in body position, breathing exercises lead to the resumption of blood flow. Venous blood is forced to move from the bottom up by the muscles of the body, the muscles of the legs. The movement of the diaphragm plays a big role. Movements increase the amount of arterial blood and, most importantly, close the AVA. The blood flow is slowly restored.)

Let's summarize the intermediate result of the onset of migraine.

All the main primary, most characteristic and most probable clinical observations of Oliver Sachs are now sufficiently well explained by the New Theory of CVD, or theory, at least, do not contradict these observations.

Let us consider some additional arguments in favor of the proposed New Theory. Let's summarize data from other sources of information about migraines.

- 1) The analysis of several clinical studies revealed that the mechanism of the birth and development of migraine occurs at the level of the violation of cellular energy exchange. (This observation is satisfactorily explained by the New Theory. The blockage of blood circulation does not occur immediately in the whole organ, but first selectively, in mosaic, in some groups of cells, in the most "remote" cells. In those places where the vessels are too crimped and damaged, there are violations of cellular energy exchange. Where the pressure gradient between arterioles and veins has decreased to a minimum, up to a certain threshold value, stasis, stagnation, decrease in energy exchange occurs there.)
- 2) Headache with migraine is not associated with an increase or a sharp drop in blood pressure. (A sharp increase in blood pressure in a person could occur earlier - before a some hours or even a day - this increase will cause the AVA to open, for example, in the intestinal region, followed by a prolonged arterial "bleeding" from

the arteries to the veins. At the time of the migraine AP can be either normal or even low.)

- 3) According to a very old hypothesis, a migraine attack arises from the uneven distribution of blood in the vessels of the brain, although the total volume of blood flow varies little. "Suspect" as the cerebral arteries, especially the arteries of the meninges, and the veins. (This hypothesis is not specific, there are no explanations, what is the mechanism of the changes, why this happens, may be some blood goes through AVA brain anastomoses with blockage of working brain cells. Further studies are needed.)
- 4) A variety of circumstances may cause a migraine attack - stress, discharge after emotional experiences, negative emotions, changing weather, the onset of menstruation, lack of sleep or, on the contrary, excessive sleep with dreams. (Yes, these facts only strengthen the correctness of the New Theory. Stresses and experiences, a sedentary lifestyle lead to the discovery of AVA.)
- 5) To provoke an attack of migraine can food products: cocoa, chocolate, milk, cheese, nuts, eggs, soy sauce, sardines, tomatoes, celery, citrus, red wine, fatty foods. (There are also no contradictions here, these products contain "tyramine", so these products can cause an additional rise in blood pressure.)
- 6) It is established that the likelihood of cancer is well correlated with cardiovascular diseases and migraine. This is not accidental. Usually first CVD, then cancer. Here is what the Nobel laureate of 1931 Otto Warburg said [25,26]: "Cancer, above all other diseases, has countless secondary causes. But even for cancer, there is only one prime cause. Summarized in a few words, the prime cause of cancer is the replacement of the respiration of oxygen in normal body cells by a fermentation of sugar." In view of the New Theory, it can be added that many CVD and cancer are the result of abnormal AVA work, the result of blockages of capillary circulation, the result of a lack of oxygen in the cells. Because of mosaic necrosis of cells in some organs, the process of removal of dead cells is constantly going on. Constantly increases the load on the immune system. At some point, the immune system begins to fail to cope with its basic work. Possible the origin of cancer cells. The new Theory develops and well complements the theory of Otto Warburg.

One more question. What is the position of the top management on medicine and health in relation to the New Theory of CVD? Answer: interest for 7 years is missing completely, although they know about Theory. The initiatives are only from the authors of the New Theory.

In addition, as before, at the beginning of 2018, all CVDs (more than 150 of them) remain for official medicine diseases with unknown mechanisms. We offer co-operation. Mankind can live and work longer.

## Conclusions

- 1) It is shown, that non-optimal work of arteriovenous anastomoses (AVA) can lead to many diseases, and migraines, including.
- 2) According to the New Theory, most CVD are caused by malfunctioning arteriovenous anastomoses (AVA), which when in the open state block the capillary circulation in some organs or parts of them.
- 3) It is necessary to influence of the opening and closing of AVA. Apparently, medicines, thermal, laser or mechanical devices may be used for this. It is possible to install artificial devices in vessels, use

telemedicine sensors. How to treat a migraine? This is a separate issue, but it is obvious that somehow it is necessary to influence of the AVA opening\closing.

- 4) It is necessary to conduct a series of experiments with extraction and removal of portions of dirty blood from venous plethora, from the legs and from the pelvic area. We believe that the health effect for the donor, according to the New Theory of CVD, will be high.
- 5) If you recognize the proposed theory as correct, then many sections of medicine on the mechanisms of diseases occurrence must be adjusted or revised.
- 6) In fact, the development of the New Theory is our hobby. Our group works alone, analyzing open data. During 7 years of discussing the new theory from the heads of medicine, not a single serious proposal were made to test the theory in a medical laboratory. Why is it? Probably in the Cardiology there are no problems?

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