

# New cardiovascular disease (CVD)/cancer theory explains the mechanism of diabetes

**Aim:** The World Health Organization reports: around the world, an “ruthless march” is marching the epidemic of diabetes mellitus - a disease that already affects almost every 11 people. According to 2014 data, about 422 million adults worldwide suffered from diabetes, and back in 1980, the incidence of diabetes was four times less. Due to the “high sugar”, about 3.7 million deaths occur annually. “Specialists” predict that the numbers will only grow if radical measures are not taken. Experts at the same time studied type 1 and type 2 diabetes and concluded: a sharp increase in the number of diabetes patients worldwide is mainly due to type 2 diabetes, which is associated with malnutrition and lifestyle, 43% who died from diabetes and concomitant diseases did not live up to 70 years. The figures are gloomy. In 2020, there will be about 500 million diabetics. The purpose of this article is an attempt to uncover the true mechanism of diabetes and give hope to people.

**Methods:** Exploring the many sources of information posted on the Internet. Discussion of proposed ideas at conferences, publication of original articles in Russian and English-language medical journals.

**Results:** You need to get acquainted with the New Theory of CVD/Cancer. From 2012 to 2019 alone, I, the author of the New Theory, published in medical journals about 20-30 articles in English and Russian on the mechanism of many diseases with the so-called “unknown” mechanism. In fact, most of these diseases are based on the same mechanism, but the scenarios for the deterioration of health in all people due to genetic differences and lifestyles have their own characteristics.

**Keywords:** Heart failure with reduced ejection fraction ■ Atrial fibrillation ■ Catheter ablation ■ Antiarrhythmic drugs ■ LGE-CMR

## Introduction

The author of the article several times in 2012-2019 spoke at international medical conferences, for example, in Moscow and London. In the last 3 years alone, from different countries from magazine editors and conference organizers, I received about 25 thousand (in total, taking into account repeated requests) applications for publications and reports. Most letters from the USA. If we talk briefly about the yet unrecognized discovery, the mechanism of many diseases with an “unknown” mechanism is the same: gradual overflow and stretching of the venous pool due to uncontrolled leakage of arterial blood through large and small arteriovenous anastomoses (AVA). As a rule, the opening/closing of the ABA occurs in stressful situations with an increase in

blood pressure (BP) [1-13]. The meaning of such leaks in emergency reductions in peak values of blood pressure. The discovery of ABA, usually for a few seconds, is the body's defense of arterial vessels, mainly the heart and brain, from heavy loads when they are stretched. Constant manipulation in the form of opening and closing ABA leads to jumps in blood pressure. Most often, a large AVA can exist between the mesenteric artery and the portal vein [14]. As a result, rescue of arteries from heavy loads turns into a problem on the other hand, which doctors still do not see: almost constant increase in venous pressure, increase in venous blood volume, stretching of veins, blocking of the liver, decrease in pressure difference between arterioles and venules in some organs and, as a result increasing stagnation of venous blood.

Ermoshkin Vladimir Ivanovich\*

Russian New University, Moscow, Russia

\*Author for correspondence:  
Ermoshkin Vladimir Ivanovich

Email: evlad48@list.ru

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It turns out that during a day in a person in a sitting or standing position, venous blood accumulates under the influence of gravity in the lower half of the body: in the legs and organs of the small pelvis. But, while a person is young and physically active, venous valves located in the veins of the lower half of the body effectively resist blood flow. But over the years, mainly due to physical inactivity, the venous valves fail, and varicose veins and thrombosis of the veins begin. On the other hand, at night, during rest with the horizontal position of the spine, excessive venous blood gradually “overflows”. As a result, venous pressure is levelled along the whole body, and part of the “extra” venous blood moves to the upper half of the body: to the lungs and to the brain. Of course, all these “overflows” should not be taken literally (like overflows of water in a barrel), these “movements” should be interpreted “on average”, with a big delay after the causative factor, with the gradual, over several hours, release and movement of liquids from billions capillaries, arterioles, venules, from the extracellular space.

That is why, in the afternoon, swelling of the legs occurs, and at night, closer to the morning, at 5-7, due to the oncoming flow from the legs to the head, there is a violation of the outflow of venous blood from the lungs and brain, an increase in the viscosity of the mixed blood and, as a result, increased blood pressure due to involvement in a large circle of stagnant “dirty” blood in the previous hours. Because the portal vein is located in the lower half of the body and may have several porto-caval anastomoses when the liver is blocked, then most of the portal blood, saturated with nutrients, fats, proteins and carbohydrates, may not enter the liver for detoxification, but through the vena cava into the organs of the small pelvis, limbs and stagnate there.

### Methods and Discussion

In fact, part of the blood of a person sitting all day turns off from active blood circulation. The blood flow in a person with damaged venous valves is similar to the flow of a small plain river in the summer: part of the water is turned off, it is in the backwaters, old women, it stagnates and blooms (this looks like an “infection” in the vessels), the flow rate of the flowing water is relatively small, and with increased drought, minimal. But on the other hand, during the spring flood, the water flow is maximum, and nowhere along the channel there are no stagnation, all the dirt is washed off, the water, and the channel itself with all the old people, are cleaned.

The question arises, why the heart alone is not able to cope with edema? Let's deal with the “mechanics” of

the process. Why do circulatory disorders and blood stasis occur? What are the body's options for delivering venous blood to the right atrium?

- 1) A healthy heart in a person sitting all day physically cannot effectively raise venous blood even from the pelvic organs, not to mention the feet. Result: stagnation of blood in the lower extremities and in the pelvic organs, “cold legs”.
- 2) The muscles of the lower half of the body and the presence of venous valves during recommended daily physical exertion contributes to enhanced ventilation of the lungs, the opening of most capillaries, training of venous valves, restore blood circulation, restore normal balance of arterial (33%) and venous (67%) blood throughout the body.
- 3) Special breathing exercises are very useful. The sharp movements of the respiratory diaphragm and the corresponding manipulations of the intercostal muscles are a very effective method of pumping venous blood for any person in any conditions: at work, on the train, lying on the couch, standing in line, while on vacation, etc. Sudden exhalations and elevations of the diaphragm pump out venous blood from the lower half of the body (to reduce swelling of the legs). Sharp breaths and lowering of the diaphragm pump blood from the upper half. The last exercise is effective for relieving, for example, a morning headache or for easing the morning effect of sounding in the ears of heart beats that occur in the morning in a lying position on the right side.
- 4) It is possible to incorporate venous blood that has stagnated in the lower half of the body into the large circle of blood circulation by periodically changing the position of the body in space: from time to time it is necessary to place the feet of extended legs for ten minutes on an object located above the level of the heart. Young can stretch their arms and do handstand. For the elderly-just take a horizontal position, i.e. lie down.
- 5) The life rule should be this: during work, for example, sitting at the computer, you need to get up for five to ten minutes every hour and give the body at least minimal physical activity.

So, the initial mechanism of diseases is the same: an increase in systemic venous pressure blocks cellular nutrition in some groups of capillaries, cells experience

ischemia and hypoxia, because the pressure difference between the arterioles and venules becomes insufficient, the blood in some capillaries begins to flow very slowly, or simply makes oscillatory movements, like a pendulum: forward to the systole, back to the diastole. There is varicose veins and thrombosis in small vessels. That is why many people have swollen legs in the evening, in a painful condition, and in the morning a similar picture on the opposite side of the body: the lungs are clogged with mucus, plus a headache is possible due to a violation of the outflow of venous blood from the brain. Thus, the body is subject to pathological loads day after day: some structural changes accumulate during the day, and others at night. These structural changes cannot quickly disappear, the volume of blood vessels cannot quickly decrease, this is an additional reserve volume, it cannot be empty. This is why obesity is treated with great difficulty: it is very difficult to reduce the volume of dilated veins. The best strategy in life is to never gain weight.

It has long been concluded that sedentary work, lack of exercise is the reason for the gradual increase in weight, the reason for the massive obesity of the population in developed countries. Thanks to the New Theory, a mechanism has become known: sedentary work, unrest and stress, bad habits lead to the “invisible” opening of large and small ABA anastomoses, to blocking the flow of blood in venules and arterioles. This is where heart failure begins. All this leads to a disproportion in the volume of arterial and venous blood, venous blood getting into the “depot”, to redistribution of blood circulation speeds in different arteries and veins, to a critical slowdown in the movement of venous blood, to its stagnation, to weight gain, to massive visceral obesity of the population. And it doesn't matter that a person eats meat, fish, vegetables, fruits, bread, pasta, porridge, dessert or drinks sweet tea with pies.

Since the elasticity of the veins is low, nothing but the internal fascia of the organs and skin of a person can keep the increase in the total volume of veins and tissues, the increase in the volume of the whole body. Direct measurements of the extensibility of human skin showed higher rates in women, apparently, therefore, *ceteris paribus*, the frequency of obesity in women is higher than in men.

For example, 26% of women and 14% of men suffer from obesity in Russia, Tatyana Golikova, Russian Deputy Prime Minister for Social Affairs, said in an interview with *Rossiyskaya Gazeta* (November, 2018). According to her, “there is a tendency to worsen” [15].

In the world, compared with Russia, overweight people are even more: about 30%.

### **Well, now a few facts about diabetes**

About the facts that indicate the big problems of modern medicine.

1) It is now believed that diabetes mellitus is a serious endocrine disease associated with a deficiency or absence of the hormone insulin (DM 1) in the patient's body or a violation of the body's ability to use it (DM 2), which leads to high blood sugar (glucose). Insulin is produced by the pancreatic beta cells. In a healthy person, the metabolic process occurs as follows. Carbohydrates that enter the body with food break down into simple sugars. Glucose is absorbed into the blood, and this serves as a signal for beta cells to produce insulin. Insulin is carried by the bloodstream and “unlocks the doors” of the cells of the internal organs, ensuring the penetration of glucose into them. This conclusion seems justified, but it is not clear why the probability of type 2 diabetes mellitus (DM 2) in pets is less than 1%, and there is no “epidemic” of endocrine disease, although food, air, sun and water are the same for animals and humans? Why is diabetes not found in wild animals at all? So it's not the environment to blame. Perhaps human behavior is to blame? Vertical spine? Lifestyle? Lack of physical activity?

2) Back in the 20th century, doctors believed that type 2 diabetes only occurs in elderly or middle-aged people, since it is directly related to the process of slowing down metabolism and obesity. However, as modern medical practice shows, the lower age limit is lowering with every decade, and now type 2 diabetes is diagnosed even in 8-10 year old children, mainly suffering from excess weight and unbalanced nutrition. Twenty years ago around the world the number of people diagnosed with diabetes did not exceed 30 million people. By 2030, the number of diabetics can grow to 435 million people. All these changes surprisingly correlate with the computerization of society in the 90s of the last century, with a decrease in the share of physical labor. Many modern people have sedentary, nervous work, excessive nutrition.

3) Red blood cells form aggregates under the influence of glucose and plasma proteins. This is due to the formation of glycated hemoglobin in the erythrocyte membrane, which is directly involved in the formation of coin columns, due to the impaired functionality of the ion channels of the erythrocyte membrane, potassium and calcium ions are lost, resulting in a

change in the charge of the membrane, which in turn also leads to aggregation [16].

Perhaps these biochemical disturbances occur due to the fact that in areas of prolonged stagnation of venous blood, the latter is saturated with glucose, as well as fats and proteins. A certain part of the nutrients and hemoglobin in all organs can enter from stagnation areas, and into the stagnation zone - from the portal system through a network of anastomoses. Lack of oxygen, stasis, acidic environment and other pathological factors contribute to the formation of glycated hemoglobin. Glycated hemoglobin reflects the percentage of blood hemoglobin irreversibly connected to glucose molecules. Glycated hemoglobin is formed as a result of the Maillard reaction between hemoglobin and blood glucose. In this regard, red blood cells lose their functional characteristics, and this leads to the development of rheological disorders of the blood and diabetes.

4) The phenomenon of “morning dawn” (Dawn phenomenon) - a term denoting a state of a sharp increase in blood glucose in the morning before waking up (05: 00–08: 00). This syndrome is typical for people with type 1 and type 2 diabetes, but it can be asymptomatic in healthy people [17].

The “morning dawn” phenomenon, apparently, convincingly confirms the argument in favor of the New CVD/Cancer Theory. Indeed, in diabetics and in healthy people, during the day, additional volumes of venous blood in different quantities accumulate in the lower half of the body, in the legs. During sleep in a horizontal position, stagnant blood does not flow into the upper half of the body immediately, but with a delay of about 5-6 hours. That is why, in the morning, glucose taken from the fingers rises.

5) Why a different SK from the fingers and toes? The data is given: from the toe SK-7.3, from the toe SK-8.4 - this is 3 hours after the injection and food. New measurement: from the arm of SK-6.9, from the leg of SK-7.6. Science, apparently, does not know this phenomenon, or does not specifically notice. She recommends taking blood for analysis in the morning, either from a vein or from a finger [18].

Different sugar levels from the toe and from the toe, for example, in the evening before going to bed, also convincingly confirm another argument in favor of the New Theory. Blood from a leg is blood from a potential stagnation zone, blood from a hand is usually blood from a cleaner zone, because a person's hands are always in motion.

6) Feet in a person often suffer from nerve damage and poor blood flow. Since patients with diabetes are slowed down the healing process of wounds, any small damage on the foot can quickly turn into a severe lesion.

The feet are the most distant part of the body from the heart. It is in these zones that the most serious stagnation of venous blood is. For many who do not do enough physical exertion on their legs, gout begins, damage to nerves, blood vessels, tissue occurs.

7) Loss of vision, periodic blurring of vision, in the morning, after sleep. Central retinal vein thrombosis. The causes of obstruction (thrombosis) of the central vein are a slowdown in blood flow, an increase in its coagulation; pathological changes in the vein wall, weakening of cardiac activity, hypotension. More often observed in elderly people suffering from atherosclerosis, diabetes mellitus, in women during menopause. At a younger age, it can occur as a result of an infectious process, especially localized near the eyes. Sometimes it develops as a complication of influenza, sepsis, pneumonia and other diseases.

But what is the cause of the pathologies? What is the mechanism of disturbance of venous outflow? Science is unknown. They call old age, and this is in 30-40 years. Meanwhile, vision loss in diabetes is a very common occurrence. According to the New Theory, the advice could be this: you should sleep on an inclined surface [19], your head should be 10-15 cm higher than your legs. The inclination of the bed will not allow a critical violation of the outflow of venous blood from the head.

8) The effect of stress on blood sugar. Science has proved that with frequent nervous breakdowns and strong emotional experiences in the blood, glucose levels increase. This process is associated with the features of the functioning of the human body and the work of its protective forces. During stress, the body throws maximum strength to confront a negative factor. The level of some hormones produced by the body decreases. Including the hormone that produces insulin, which leads to impaired carbohydrate metabolism. Because of this, blood sugar levels increase under stress [20]. Of course, stress levels and hormone concentrations affect glucose levels. But the main factor in increasing blood sugar, apparently, is stress, leading to an increase in blood pressure. In a state of stress, an invisible opening of ABA anastomoses occurs and venous congestion increases. Venous congestion, prolonged stagnation lead to an increase in glycated hemoglobin.

9) People with diabetes, with poor rest, have 23%

higher blood glucose in the morning and about 48% higher insulin levels than diabetics without sleep disturbances. It was also found that diabetic patients with night rest disorders have an 82% higher insulin resistance compared to other diabetics. The lack of nightly relaxation even doubles the risk of developing diabetes. Little sleeping people gain weight more easily and faster than those who prefer a long rest. Weight gain is a key factor in the development of diabetes. In other words, lack of sleep is at the beginning of the chain leading to the development of diabetes.

Restless sleep, going to the toilet, night snacking - all this forces a person to take a vertical position of the body, all this delays the exit of stagnant venous blood from the legs and pelvic organs to the "core" of a large circle of blood circulation. Therefore, sugar levels in a restless dream by the time of the morning rise and later remain elevated, uncompensated.

10) Intensive exercise can have the opposite effect, that is, significantly increase the level of glucose in your blood. This is especially important for many people with type 2 diabetes. It is believed that the body perceives intense stress as stress and releases stress hormones that tell the body that it is necessary to raise blood sugar levels to provide energy to your muscles. If this happens, you will need to inject a little more insulin after exercise [21,22].

This paradox can be explained as follows. Stress, of course, plays a role, but not the main one. Really intense loads with weights and runs dramatically increase blood circulation in all organs, especially in the legs, in the muscles of the pelvis, back and arms. Stagnant venous blood saturated with glucose and glycated hemoglobin is "drawn" from stagnation zones into a large circle of blood circulation. Naturally, after such a training, the

glucose level makes a leap, the greater the more severe the condition of the diabetic.

#### **What to do? How to prevent diabetes and/or how to treat diabetes?**

Opinion of the author of the New CVD/Cancer Theory (idea). In the evening, you should regularly take sugar tests from the feet (preferably from cold places) and from the fingers.

#### **Findings**

1. According to the presented results, diabetes has quite simple causes and a simple mechanism of occurrence.
2. It is necessary to consider the New Theory of CVD and cancer in essence and as quickly as possible. Someone is holding back the movement of this theory.
3. Of course, a lot is still not clear. But I believe that diabetes can be defeated through joint efforts.

#### **Conclusion**

If sugar from the legs is greater than sugar from the hands by an amount X, then it is necessary to remove blood from the legs (or from the pelvic organs) and remove (or let it go for other needs). Such checks should be regular; the amount of blood taken has not yet been determined, apparently, should be about 10-60 grams or more from each foot. Breaks in the procedures occur in the absence of a significant difference in sugar in the arms and legs. Such procedures, together with proper nutrition, physical and respiratory stress will be a good prevention against diabetes. How the "old" diabetes will behave when withdrawing portions of blood from the legs is still unknown. Experiments needed. We invite like-minded people.

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