

Fecal Transplantation to Restore a Healthy Intestinal Microbiota. An Explanation of the Effectiveness of this Procedure is Given by the “New Theory of CVD and Cancer”

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Purpose

In some countries, such as the USA, Canada, Australia, Israel, Holland, there has been a boom in the use of fecal transplantation in the treatment of inflammatory bowel disease (IBD) and some other diseases. Earlier, in the summer of 2013, according to the results of special studies, the American FDA regulator allowed doctors to use fecal transplantation (only as an experimental drug) for the treatment of clostridial infection (*Clostridium difficile*), or clostridiosis, in cases where antibiotics are powerless [1]. So far, not all countries have responded to this revolutionary decision. We note here that *Clostridium difficile* is the main causative agent of pseudomembranous colitis, a severe infectious disease of the rectum, which often occurs in case of destruction or depletion of the intestinal flora and weakening of the immune system. Other diseases such as irritable bowel syndrome, dysbiosis and constipation are also very common. Naturally, any normal person has a question: how to treat a fecal transplantation, can this be a hoax? I believe that along with the well-established point of view on these problems, it is necessary to give some explanations from the alternative theory.

Method

Study of numerous sources of information posted on the Internet, discussion of proposed ideas at conferences, publication of original articles in medical journals.

Result

Writing this article was initiated by a letter from a famous doctor X. I will not name him. The letter expressed several wishes. In particular, the doctor said that if I am going to continue to promote my well-known “New Theory of CVD and Cancer”, I must explain where the great positive therapeutic effect of transplanting feces from a healthy donor to a patient comes from. Researchers for several decades cannot come to a consensus.

I quickly found the answer, and all the readers of this article can get acquainted with this short answer.

Initially, it should be noted that the treatment of feces is not a new treatment. Such treatment of diarrhea and poisoning, for example, has been known for a long time, from the 3rd century AD, in China. The treatment was carried out by doctor Ge Hong [2].

In addition, eating feces is common in animals, even if the animal is not hungry.

So, what do ordinary people who are not familiar with this treatment say about? They say that this is either not true, or that only mentally ill people can use feces or use enemas with other people’s feces. Either people twist a finger at their heads in response to such a question.

And what do the patients who have been cured by this method say? They almost all say (and the doctors confirm) that this is probably a very simple and quick treatment of intestinal inflammation, it is a deliverance from torment, often it is the saving of human lives. The effectiveness of the treatment of IBD is up to 94%, for comparison, the effectiveness of treatment with antibiotics (vancomycin) is only 27% [3].

This is exactly what the doctors, practicing various methods of transplanting feces, or studying the human intestinal microbiota said.

1. Annually, clostridial infection (*Clostridium difficile*) affects about 400 thousand people in the USA, of which up to 30 thousand are fatal. Among them are those who were treated in hospitals and received broad-spectrum antibiotics. In other “developed countries”, the incidence pattern is similar. The annual cost of treating a clostridial infection in the United States is estimated at \$ 4.8 billion [4]. [For comparison: the construction of the Crimean Bridge is comparable to this amount, the bridge is only 30% cheaper. It turns out that the expenses of the United States in treating a clostridial infection are enormous, every year-one Crimean Bridge!].
2. Prospects for the use of fecal transplantation are very broad: in addition to pseudomembranous and ulcerative colitis, the technique can also help patients with severe autoimmune diseases such as Crohn’s disease [5].
3. The role of the intestinal microbiota in the development of diseases of the liver and biliary tract is also noted [6]. This is a very important conclusion! (Remember this conclusion, we will return to it more than once).
4. An international team of Israeli and American researchers conducted successful clinical trials of transplanting feces from cancer patients and those still struggling with the disease. Positive results were presented at the AACR Annual Meeting 2019 conference in Georgia [7].
5. The efficacy of microbiota transplants was observed in the treatment of multiple sclerosis, autism, Parkinson’s disease, chronic fatigue syndrome [8].
6. Fecal transplantation is a remedy for diarrhea, Parkinson’s disease and excess weight [9].
7. More people are working in the oncology industry than those being treated, or why there is still no solution to the cancer problem [10]?
8. Every fourth adult has multiple health problems. In other words, comorbidity of diseases is very common. This shocking conclusion was made by researchers from the UK [11].
9. There are preliminary data on the effect of fecal transplantation on the clinic of multiple sclerosis, Crohn’s disease, ulcerative colitis and diabetes mellitus. All that binds these diseases is the complex bacterial community of the intestines. The whole essence of the treatment revolves around this complex microbiocenosis. In addition, scientists (as they think) naturally emphasize that bacteria are not the only factor in donor feces. Viruses, archaea, fungi, protozoa, as well as intestinal epithelial cells along with metabolic products - this whole “hodgepodge” can play a significant role in the mechanism of fecal transplantation [12].
10. Up to date, over 500 scientific publications on fecal transplantation have been registered, describing both single clinical cases and clinical studies, in which approximately 90% cumulative efficacy has been observed in the treatment of recurrent clostridial infection and no side effects have been noted. Since 1958, when B. Eiseman performed the first fecal transplantations, more than 5,000 procedures have been successfully performed around the world, which have been shown to be effective in severe infection, IBD and irritable bowel syndrome. In addition, there are works showing the effectiveness of microbiota transplantation in non-gastroenterological diseases, such as diabetes mellitus and insulin resistance, obesity, multiple sclerosis, parkinsonism, rheumatoid arthritis, idiopathic autoimmune purpura [13].

So, most researchers, analyzing the cause of IBD, indicate that the massive use of antibiotics in the treatment of intestinal diseases leads to a poor result. Some researchers suggest that antibiotics, along with harmful microflora for the body, also kill beneficial intestinal

microflora, which is why so often there is a clostridial infection and many serious diseases. But, on the other hand, antibiotics were invented and began to be massively used only from the mid-20th century, and the successful use of feces transplants to treat diarrhea and intestinal diseases in China began 1.5 thousand years before this invention. This means that it is not the use of antibiotics that underlies the massive IBD, but something else, although the use of antibiotics may contribute to the complication of this problem. As you can see, this observation gives some chance to other theories, and in particular to the New Theory of CVD and Cancer, to take the initiative.

On the other hand, “throughout the world, researchers in recent years (starting around 2004) have noted new causal relationships that doctors have not noticed before. Over the past 20 years, many doctors have significantly changed the standard understanding of the pathogenesis of most diseases”. For example, in the regular issues of Russian Medical Journal No. 11 of 06/30/2016 (pp. 713-720) [6], the review article contains the following conclusion, which is terrible for official medicine of the 19th and 20th centuries. This conclusion actually confirms that the existing theory of many diseases must be revised. That’s what famous doctors write. “It is believed that today unequivocal evidence of the role of the intestinal microbiota in the development of atherosclerosis, heart failure, oncology, urolithiasis, obesity, autism, diabetes mellitus, hypertension, as well as allergic, autoimmune and many other diseases have been obtained. Violation of the intestinal microflora occurs in 90% of patients with CVD [14]. Recently, the role of intestinal microflora in the development of liver diseases has been actively discussed [6]. It has been shown that long-term intestinal dysbiosis, especially the syndrome of excessive bacterial growth, leads to the development of non-alcoholic steatosis and steatohepatitis, intrahepatic intralobular cholestasis, as well as functional disorders of extrahepatic biliary tract. Non-alcoholic fatty liver disease is extremely widespread in the general population, and the explanation of its pathogenesis only by metabolic disorders in obesity no longer corresponds to the modern level of science”.

Here, apparently, comes the insight of some representatives of official medicine, the researchers it becomes clear that they have gone wrong for many decades.

But such a pessimistic conclusion, in the opinion of the author of the New Theory of CVD and Cancer, could be expected. Such a conclusion can be logically justified, it is only necessary to make a “small” clarification. The critical changes in the microbiota and the numerous diseases listed above are not cause and effect. The state of the microbiota is also a consequence. And the reason is still not found, it is hidden from view, but reasoning logically, you can know it. We will do this, but in a few lines. Let us turn to the New Theory of CVD and Cancer [15-20], which began to flourish in 2011. In fact, until today, official medicine does not recognize it, and how can it be recognized if it came not from the depths of official medicine and not a single penny was spent on its development? And where to put thousands of dissertations of famous medical scientists?

Nevertheless, let’s consider in this article anew some of the provisions of the New Theory and determine the main links with which the problems begin. As always, it is physical or psychological stress, plus a sedentary lifestyle with no regular physical exertion. Because of this lifestyle, osteochondrosis can develop, which acts as an aggravating factor in the development of many CVDs.

Already in middle age, in a healthy person, due to stressful loads and due to the degradation of blood flow through the vertebral arteries, a significant rise in blood pressure (BP) can periodically occur. In order to protect the arteries from excessive stretching and an increase in body arterial pressure is triggered follows : large arteriovenous anastomoses (AVA) or AV shunts open. This leads to a decrease in blood pressure. Usually, after a few seconds, AVA closes and, consequently, blood pressure rises slowly again [21]. This is the mechanical (along with the nervous and hormonal) regulation of blood pressure. So, there are often observed in patients “jumps in blood pressure.” During the opening of AVA, arterial blood quickly flows into the venous pool, because the pressure difference between the arteries and veins is about 120 mm Hg and higher. As a result, an imbalance of arterial and venous blood volumes is formed. Returning to the optimal balance cannot happen very quickly (taking into account the Frank-Starling law), because volumetric transfer rates of blood on the right and left ventricles are approximately equal. Venous blood, because it has become more than normal, slows down its movement, stagnates. During the day, under the influence of gravity, it accumulates in the lower half of the body: in the pelvic organs and in the legs. The result is swelling and varicose veins.

There is evidence that functioning AVA can be in many organs, but most often AVA, which work on opening and closing their lumen, can be between the superior mesenteric artery and the portal vein [22]. Sometimes the walls of AVA degrade to the limit, and the holes of the AVA become gaping, arterial blood can flow into the veins for a long time.

Gradually with the years lived, the venous valves of the lower half of the body are damaged. This is due to an increase in venous pressure, in fact, due to the “extra” volume of venous blood. Venous blood overflows the vessels of the liver, spleen, intestines. Thrombosis begins, first small vessels, then larger ones.

But the first thing that happens when the AVA is opened between the superior mesenteric artery and the portal vein is devious blood flow (or rather, the distribution of additional pressure) through the veins around the liver into the inferior vena cava by means of the portal and caval anastomosis cascade. As a result, blood pressure rises in the hepatic vein, which leads first to a slight and then to a significant blockage of the liver. Sometimes the liver becomes full and under certain conditions it starts to pulse. The “driver” of unusual pulsations is pulse waves propagating through the aorta and arteries from the left ventricle. The energy of the liver pulsations can be transmitted to the superior vena cava and further to the myocardium. Mechanical impulses excite cardiomyocytes time after time. At the same time, the frequency of heartbeats is almost constant and corresponds to the travel time of the mechanical impulses along the closed contour of the vessels. Such is the nature of mechanically induced atrial and ventricular extrasystoles or tachycardia.

What intermediate conclusion can be drawn from this description? First of all, when opening AVA near the liver, the liver itself suffers. Note that in alcoholics, the liver is damaged earlier and to a greater extent.

The blockage of the liver and pancreas due to increased venous pressure leads to the fact that blood circulation in the liver and the movement of bile slows down. This is the cause of alcoholic or non-alcoholic steatosis, in the perspective of hepatitis of the liver. Bile and other enzymes cannot sufficiently pass from the pancreas into the intestinal lumen. Apparently, part of the bile, which contains bad cholesterol, due to damage to the liver cells and small vessels, goes directly into the bloodstream, and this contributes to the development of systemic atherosclerosis. In the small intestine, due to the fact that there is a lack of bile treated with pancreatic enzymes, the efficiency of digestion and the qualitative composition of the microbiota change. This becomes especially noticeable in the large intestine. Apparently, because of this, there is a so-called “dysbacteriosis”, a change in the microbiota of the colon, clostridial infection, constipation, IBS, etc.

So, frequent stresses, disorders of a healthy lifestyle, jumps in blood pressure, open AVA, liver and pancreas blockages, volume reduction and changes in the biochemical composition of fluids entering the intestinal lumen, apparently, lead to various IBD and clostridial infection. The explanations for pathological events directly affect gastroenterological complications, and all this lies in the mainstream of the New Theory.

But why do not gastrointestinal diseases arise when the microbiota transplantation? This is the main mystery for official medicine: why along with IBD there is a group of CVD and some psychosomatic diseases? From the point of view of New Theory and speaking briefly, this happens as follows: most human diseases start due to an increase in venous volume due to open AVA plus the effect of gravity, which stretches the walls of venous vessels and concentrates excess blood in the lower half of the body. Increased venous pressure, varicose veins and thrombosis primarily have a pathological effect on the pelvic organs and legs. During the night rest in a horizontal position of the human body there is a redistribution of excess volume of venous blood. Excess venous blood moves to the head. The excess volume of venous blood contributes to the violation of the outflow of venous blood from the brain [16,19] this contributes to the appearance of morning headaches, symptoms of multiple sclerosis and other diseases.

Because if the pathological increase in venous pressure is systemic, this leads to a deterioration in the nutrition of working cells of the whole organism but depending on the position of the body: lying, sitting, standing. Obviously, it is impossible to create the same conditions for the optimal pressure difference between arterioles and venules for all cells of the body, i.e. for all 40 trillion cells. Scattered

throughout the body and organs, ischemia occurs on small, microscopic parts of the organs. Cells that do not receive nutrition and oxygen undergo necrosis and apoptosis. Most of the other cells, even those “near”, continue to function normally, because pressure difference for them may be sufficient. Working cells that are in a state of ischemia for a long time may undergo mutations. This is because cells of the immune system cannot reach mutant cells due to the fact that in the zones of ischemia and necrosis the pressure difference between arterioles and venules is close to zero, there is no movement of blood. So, there are numerous micro zones of stagnation and necrosis, the level of C-reactive protein rises, signs of systemic inflammation appear. It becomes clear that the numerous ischemia microzones do not form and that the immune system performs its functions fully, normalization of capillary blood circulation is necessary, constant moderate exercise is necessary, and sometimes, to compensate for stagnation zones, maximum loads on the whole body: swimming, running, gymnastics and other procedures.

Let us return to the main thesis of this article. According to the New Theory, inflammatory bowel disease (IBD) and many other problems may occur sooner or later in a person with venous plethora [23]. And all this is because a modern person sitting at a computer for a whole day, or abusing alcohol, cannot fail to block the liver and pancreas due to open AVA and increased venous pressure. And since these organs are not working at full capacity, bile, enzymes, juices and fluids in insufficient quantities enter the intestine and are not able to maintain a normal beneficial microbiota. A pathological microbiota develops, it creates digestive problems, while healthy bacteria gradually diminish in their volume and disappear.

And if a fecal transplantation is done to such a sick person, then the beneficial intestinal microbiota will quickly recover, some symptoms of diseases will disappear, the person will turn out to be “cured”. But such a “treatment”, if you do not restore the work of the liver, gallbladder, pancreas and other organs, will need to be repeated periodically. In practice, this is exactly what happens: gastroenterologists recommend periodic fecal transplantation.

As a result, we arrive at the following conclusions.

Conclusions

All illnesses are from stress, in other words “from nerves” - and this is confirmed by the New Theory.

Proper nutrition and physical activity contributes to the development of normal microbiota, contributes to a good mood, the production of the pleasure hormone serotonin, getting rid of stress.

The first “damaged” organ due to frequent stresses is the vascular system, specifically, arteriovenous anastomoses (AVA), which, in a healthy person, should work optimally depending on blood pressure: when the pressure rises -to open, when it goes down - to close.

If a person is physically passive, the AVAs do not work optimally: they close either with large delays, or these shunts are in a constantly open state. Patients with such vessels already in middle age may be subject to pathological changes in the microbiota and get a bouquet of diseases.

What is the list of diseases a passive person may have with not optimal AVA? In the opinion of the author of the New Theory of CVD and Cancer, the development of a large list of diseases that are now considered to be diseases with an unknown mechanism is possible. There are about 150 such diseases in the list.

Periodic fecal transplantation from a healthy person is an effective restoration of a healthy microbiota in a person with IBD, with gastroenterological and non-gastroenterological diseases. Such treatment has been clinically confirmed and now theoretically confirmed, thanks to the New Theory of CVD and Cancer!

The direction set by the New Theory of CVD and Cancer must be continued; it is necessary to achieve a dialogue between the authors of New Theory and the leadership of official medicine! Delay in dialogue pushes official medicine into a deeper impasse.

Even Hippocrates predicted: "The death of a man begins with his gut." But at least for the last 100-200 years, "smart" modern medicine has been searching for mechanisms of "individual diseases". But it turned out: "It's all wrong, guys!"

Medicine worked according to the rule: "Doctors can, supposedly, treat, there are instructions, there are rules, but doctors do not know the reason and mechanism for more than 150 diseases".

Authors of the new theory are happy that our group of researchers, apparently, managed to unravel the tangle of many diseases with an "unknown mechanism"! A single mechanism for a large group of diseases has become known, and a huge number of biochemical reactions in the human body, previously studied and proven, must now be introduced into the future general theory of non-communicable diseases.

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