With Dr Josef Jonas: About the Health

Episode 16:

ARTERIES AND VEINS, part 1 - Arteries

Arteries (in Latin *arteriae),* veins (in Latin *venae*) and heart (in Latin *cor*) together form blood circulation. To understand correctly the whole issue we need to know that there is a fundamental difference between arteries and veins. Not only in the fact that one carries oxygenated blood and the other the blood already deprived of oxygen and replaced with carbon dioxide. The difference is mainly in construction of these "pipes" that distribute blood to almost every cell of our body. The speed is enormous, which means the relevant substance reaches any cell in your body within a split second. It is a system that is extremely efficient, but causes the greatest complications. For decades or perhaps even centuries the presumption has not changed, the cardiovascular system, which is how we technically call this circulatory system, is the source of the most common causes of death. It far exceeds all other causes of death. Absolute majority of people dye from any cardiovascular problems, both arterial and venous, and of course heart.

Unlike the veins, the arteries have their own muscle layer. This muscle layer is very important because it is involved in the control of blood pressure, regulation of blood flow depending on whether a man needs more or less of oxygenated blood, and that is why this muscle layer is very active. This is what makes it different from the venous system. Veins do not have this muscle layer, and the blood flow is thus ensured only by means of muscle movements or movements of the whole body. Any back flow of blood is prevented by valves. The valves are half-moon formations that open when the blood flows in one direction, and close to prevent back flow. And that is exactly the cause of many problems. Arteries have no valves because blood in them is still driven by the heart, and as I said, they also have their own muscle layer.

The most common problems with arterial system are four: either the artery gets partially clogged and triggers the so called sclerotic process until one day it gets clogged completely. This is how the blood flow to certain areas is prevented, which means a disaster for that region. If it is in the heart region we call it a myocardial infarction, damaged muscle of the

heart. If the blood is not properly supplied to the brain, it is a stroke. Insufficient blood supply may however also occur in the limbs or generally in all parts of the human body.

A rupture of an artery represents another problem. It usually involves high blood pressure, too, that pushes against the artery with more force. Such artery must already be damaged, and will not therefore resist the force of the blood pressure. A healthy young artery would break only rarely, merely in case of congenital defects such as aneurysms or other congenital defects that weaken the arterial wall. The blood pressure as such will be a separate topic of our next discussion as it is a truly complex chapter, and we would not have enough time to explain thoroughly how alternative medicine influences the quality of arteries.

Contemporary medicine makes enormous progresses in the field of cardiology and cardiac surgery. Nothing has changed that much during my professional doctor's career as the overall approach to vascular diseases. Various endoscopic surgeries, devices like pacemakers and various examination methods are immensely more advanced than they were ten, twenty or thirty years ago. But one cannot help but to notice one thing, the fact that they are merely examination methods. People very often confuse the terms "I was treated" and "I am examined". These examination methods are truly amazing, devices are already beyond our technical understanding, but it still does not represent any type of cure. The treatment itself has not experienced similarly great progress, and prevention has not changed a bit. While you may hear about various factors that are damaging for the arterial system, such as smoking, there is without any doubt, or greasy food and overweight, again without any doubt, but this kind of prevention basically does not influence development such diseases. The occurrence remains rather high and the mankind may be in fact under a greater threat due to the arteries than ever before.

The damage to the artery occurs in a relatively logical way. The artery is padded from the inside by an intima, or endothelium, which is hydrophobic layer. When the endothelium is healthy, nothing can get stuck on it. No platelets that would cause blood clotting, no cholesterol or metals. In short, the blood flows through the system very smoothly. However, under the endothelium layer there is a layer of fibrous tissue that may sometimes age faster or slower, and depending on the quality of this tissue we may conclude the biological age of our vessels. One scientist even shared a witticism that when lying in his bed at night he keeps listening to how his vessels grow old. This means that he tries to listen to the changes in the fibrous tissue that circles the diameter of the artery. And what is actually happening in the tissue? Various microorganisms, such as Borrelia, viruses or certain bacteria get there and form microbial deposits. These deposits grow and penetrate through endothelium, destroying its water repellence, which is the root of the whole problem. Because when endothelium ceases to be water repellent, various blood components I have named start to get stuck on it. Therefore we often hear about cholesterol, etc., but it is actually only a secondary problem. Higher cholesterol levels according to the current criteria should not particularly hurt healthy artery. This is statistically proven. But if it has a damaged fibrous layer and endothelium, it triggers the process of sclerosis, which is the major trouble. The resulting sclerotic artery plaque can not only clog the whole artery but it also disrupts the arterial wall, which may rupture due to the high blood pressure.

To prevent this, we must focus more on other areas than the microorganisms and other generally known things; on the area that most people forget about, i.e. on acidity and

alkalinity. We shall deal with it more in the chapter on veins, but you need to put these two chapters together to get a total summary of the whole issue and to understand well how to protect your vascular system.

We have got **VasoDren** that removes microbial deposits from the vessels; we have got **Antimetal** which washes away heavy metals. We have got **Achol** that affects cholesterol levels. But that all would go in vain if we do not fully understand the question of alkalinity and acidity of organism. This however does not fit anymore into today's chapter.

As I said, the whole cardiovascular system forms a single large functional unit, and therefore we shall not pay attention to only one part of it. Of course, it is perfectly alright if we care about diet, if we care about sufficient amount of omega fatty acids, namely omega-6 and omega-3, which can be found in olive oil, fish or fish oil and also in linseed oil with particularly great composition of fatty substances, but we also need to care about foodstuffs that may burden the arterial system and which are all well known. But we shall surely deal with them later on. So far it is enough to remember that moderate and well-composed diet is an important step in prevention of arterial diseases.

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