The modern lifestyle of mankind, unfortunately, has made it possible to spread too many diseases associated with a violation of blood circulation in the human body. [1]. For the treatment of such diseases, modern medicine has created a variety of medicines and devices that contribute to the normalization of blood circulation in the human body. However, these devices are not always effective, especially for patients with varicose veins.

It is known that venous blood may move only due to a small difference in pressure between the venous environment and the right atrium. The movement of venous blood through the extremities is particularly difficult because it needs to move against the force of gravity. It turns out that a huge role in venous blood flow is played by the so-called reverse valves [2], which are located inside the veins. Thanks to them, venous blood, at any compression of the muscles, that is, the veins, moves only toward the heart. For initial research, we produced a simple device, similar to the "amplipulse" system [3], and investigated its effect on the limb muscles by applying a constant voltage to the electrodes located on different sides of the limb, in contrast to the "amplipulse" system, where they are located adjacent. Having conducted experimental research:

1. it is determined that the optimal voltage for an electric, painless limb effect is about 20 ± ΔU Volt, which varies depending on the thickness of the limb and the moisture of the skin and should be prescribed individually for each person at the time of procedures.
2. confirmed the possibility of using a small voltage to perform compression of the limb muscles, that is, the veins, which should contribute to accelerating venous circulation, but, of course, this action is possible only with the full function of venous valves.

It is known that when varicose veins expand, the reverse valves cannot fully fulfill their function, and therefore, in our view, the work of devices performing one-site compression becomes ineffective because, according to Pascal's law, any action on the liquid is transmitted in both directions in the same way. So, in order to make the device effective in the case of varicose veins, it is necessary to develop some mechanism replacing the operation of these check valves.

To effectively change the action of venous valves, we decided to perform impulse feeding on a special scheme, the principle of which is based on multi-area wave extrusion of blood. That is, it was decided to perform each subsequent compression while retaining the previous one. Thus, even without the closure of venous valves, preservation of pre-compression does not allow displacement of venous blood in the reverse direction of the heart, which should significantly contribute to substantial acceleration of the flow of venous blood to the heart.

To perform wave compressions, a "sleeve" was made with 4 pairs of electrodes, which are put along the limb where the voltage in rotation is given for a short time. The problem of impulse automation for long-term procedures was solved.

To increase effectiveness of the device on the vessels, we decided to coordinate the supply of impulses with human breathing. After conducting theoretical research, we came to the conclusion that during breathing there is a compression of the muscles, and hence the veins, both in the chest and intraperitoneal organs. We came to the conclusion that the compression wave should be carried out during inspiration, and exhalation should take place in pauses between compressions, since it is during inspiration that favorable conditions for accelerating the blood flow through the veins occur [4].

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