

9<sup>th</sup> Annual Meeting on

# Arrhythmia and Cardiac Surgery

July 14-15, 2016 Brisbane, Australia

## Arteriovenous anastomoses and cardiovascular diseases

**Vladimir I Ermoshkin**

Russian New University, Russia

**Aim:** A new attempt to study the unknown role of the arteriovenous anastomoses (AVA).**Method:** The methodology used in this study is an information search in literature, participation in conferences, discussions with Russian leading cardiologists.**Result:** Researchers consider that the AVA is important for the regulation of blood supply to certain organs. AVA is involved in the mechanism of thermal, humoral and receptors regulation. However, it is believed that the role of small or large AVA in human circulatory system is still poorly understood. We have found that along with the positive role, the anastomoses, especially large AVA, periodically have pathological effects on the cardiovascular system. The device Cardiocode was used for testing. Large arteriovenous anastomoses (AVA) can be opened under the influence of stress. Periodically, the pressure change in the arteries and veins. Vena cava expands, its wall's tone increases and pulse waves start to path through the AVA along the elastic walls of the vena cava to the right atrium. Mechanical impulses can excite heart from various points of the atria or ventricles, disrupting the sinus rhythm. The results are as follows: Appearance extrasystoles, tachycardia attacks, at the same time the blood flow is blocked on almost all the peripheral segments of circulatory system and edemata appearance. Increased venous pressure stops the capillary circulation, which eventually leads to heart failure, even in a healthy heart. Serious metabolic disorder appears which leads to disease comorbidity and sudden cardiac death (SCD).**Conclusions:** Unhealthy way of life and presence of large AVA can sometimes lead to a variety of diseases. To get rid of the attacks of cardiac arrhythmias and the prevention of SCD we need to find some way to suppress the mechanical waves running through AVA, as "reentry" phenomenon has a mechanical nature. It is necessary to continue studying the AVA to develop new measures for neutralizing the pathological events associated with the AVA.

### Biography

Vladimir I Ermoshkin has completed his graduation from Physics Department of Moscow State University in 1978 and worked in RosNOU as Biophysicist. From 2011, he has published 5 articles on cardiology in prominent magazines, and had 5 oral presentations at medical conferences in Russian Peoples' Friendship University.

[evlad48@list.ru](mailto:evlad48@list.ru)

### Notes: