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# Association of circadian genes polymorphisms with coronary heart disease

**Svetlana Gorokhova**
I.M. Sechenov First Moscow State Medical University, Russia

There is strong evidence that coronary heart disease (CHD) is associated with polymorphisms in several genes connected with dyslipidemia, impaired blood coagulation, inflammation and other factors of the CHD. This suggests the existence of genes that coordinate the activity of risk alleles. Circadian genes are of special interest in this respect; however, the extent of their relationship with coronary atherosclerosis is not known. Our study on polymorphisms of PER, CRY1, CLOCK and NPAS2 circadian genes in patients with CHD revealed the connection between CRY1 polymorphism and coronary atherosclerosis, and between other circadian genes and risk factors of CHD. In particular, polymorphism in CLOCK gene is associated with cholesterol, in PER1 with hemostasis (e.g. fibrinogen) etc. Because circadian genes are also responsible for synchronization of metabolic processes including lipid metabolism, they may be involved into CHD development in a direct (biorhythmicity disturbances such as time shifts or disruption in cycles of atherogenic mechanisms) and indirect way (by affecting various components of atherosclerotic process). We present our data on the association of circadian genes with CHD from this perspective

## Biography

Svetlana Gorokhova graduated from the Faculty of Medicine at N.I. Pirogov 2nd Moscow Medical Institute, Russia and received Ph.D. degree in 1986. Since 2002 she is a Full Professor at I.M. Sechenov First Moscow State Medical University, Russia and she is also the Head of Laboratory of Experimental Cardiology in Clinical Research Center of JSC Russian Railways. Her work is dedicated to problems of cardiology, health care organization, and implementation of new technologies into 'real-life' clinical practice. She organizes and participates in interdisciplinary projects on environmental and genetic risk factors of cardiovascular diseases.

cafedra2004@mail.ru