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## **Investigation of blood cell mitochondrial genome mutations in symptomless atherosclerosis among women**

**Sazonova M A<sup>1,2</sup>, Chicheva M M<sup>1</sup>, Postnov A Y<sup>2</sup>, Orekhov A N<sup>1,3</sup>, Sobenin I A<sup>1,2</sup>**

<sup>1</sup>Institute of General Pathology and Pathophysiology, Russian Federation

<sup>2</sup>Russian Cardiology Research and Production Complex, Russian Federation

<sup>3</sup>Skolkovo Innovative Centre, Russian Federation

**Objective:** Nowadays, atherosclerosis is one of the most common diseases. It is a basis for the majority of cardiovascular pathologies. The aim of the present study was a detection of mitochondrial genome mutations associated with symptomless atherosclerotic lesions of carotid arteries in women.

**Methods:** The participants of the study were 183 conventionally healthy women from Moscow region, having no clinical manifestations of atherosclerosis in the form of coronary heart disease, old myocardial infarction or stroke. The age of the women varied from 34 to 86 years, the average age in the selection was 65.41(SD=9.34) years. High-resolution B-mode ultrasonography of carotids was used to estimate the extent of carotid atherosclerosis by measuring of the carotid Intima-Media Thickness (cIMT). DNA samples were obtained from whole venous blood. In the present selection, 42 mitochondrial genome mutations were analyzed. Fragments of DNA were amplified by PCR and further analyzed by new original method of quantitative assessment of mutant allele, developed in our laboratory on the basis of pyrosequence technology.

**Conclusion:** Three atherogenic mutations (C3256T, G14709A and G12315A) and two anti-atherogenic ones (G13513A and G14846A), which are associated with symptomless (preclinical) atherosclerosis in women, were found.

### **Biography**

Sazonova M A graduated from Kharkov State University in 1986. She defended her PhD thesis in 1999. From 1986 to 2005, she worked in the laboratory of molecular genetics of Human Genetics Institute of Research Centre of Medical Genetics RAMS, investigating molecular genetic features of cystic fibrosis and the frequency of somatic mutations in gene K-ras in patients with adenocarcinoma of colon. Currently, she is working as a Senior Researcher in the laboratory of angiopathology at Institute of General Pathology and Pathophysiology in Moscow, where she deals with the analysis of mitochondrial genome mutations in atherosclerosis. She has 115 publications to her credit.

[margaritaasazonova@gmail.com](mailto:margaritaasazonova@gmail.com)

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