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Modern genomic approach in diagnostic cardiovascular diseases: Now-a-days reality of predictive, preventive and personalized medicine

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Cardiovascular Diseases (CVD) are the most common cause of death worldwide. Today CVDs accounts for 30% of deaths worldwide. Cardiovascular disease has long been at the forefront of gene testing in the clinic, and this trend is likely to continue. New disease genes add to our mechanistic understanding of the biology of the disorders. Building a picture of the comprehensive genetic architecture of each syndrome will eventually aid in diagnosis or prognostication, as well as drive the basic science that generates novel therapies. While clinical gene identification is currently of utility mainly in the restriction of cascade screening efforts, this will change as pathway focused therapies become available. Genetic testing in hypercholesterolemia, which previously had been of no obvious clinical importance given the precision of risk prediction with plasma cholesterol measurements and the empiric nature of subsequent management, is likely to become much more prevalent if PCSK9 inhibitors demonstrate efficacy. Similarly, imminent clinical trials in subsets of hypertrophic cardiomyopathy e.g. genotype positive–phenotype negative individuals or those with RAS-MAP kinase pathway mutations, dilated cardiomyopathy e.g. lamin a/c mutations or even allele-specific silencing may soon mandate genetic testing in these disorders. The rapid growth of genetic testing in cardiovascular disease is an important paradigm for the broader application of genetic testing across medicine, where the initial presentation may often be an avoidable sudden death.

Biography

Dmitrii Cherepakhin is a student of I.M. Sechenov First Moscow State Medical University. He is Member of Young professional group in structure of EPMA. He was a participant and speaker of two international congresses about Predictive-Preventive and Personalized Medicine (PPPM) in Bonn and in Brussels. He is an Author of serial articles about PPPM in cardio-vascular pathology and nowadays He works in genetic and in predictive and preventive medicine.

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