JOURNAL OF CARDIOVASCULAR INVESTIGATIONS : OPEN ACCESS

Molecular pathway of congenital heart disease

Mehrnaz Ajorloo, Saeed Soroush

Tehran University of Medical Sciences, Iran

Abstract

Any violation in one or more heart structures or blood vessels is a sign of congenital heart disease that occurs before birth in congenital heart disease the cardiovascular structure is not formed as it should be during pregnancy, the most common congenital heart disorders are:

Valve defects - Ventricular atrial septal defect - Ural foramen (PFO) abnormal pulmonary veins aortic quarectation (COA) anomaly Ebstein - Pulmonary artery stenosis tetralogy fallot (TOF) large artery displacement (TGA).Increased pulmonary artery pressure

Diagnosis of congenital heart disease during embryonic time can be very important and based on the location of heart involvement congenital heart diseases are very diverse, the mentioned disorders can have different types such as environmental genetic factors or multifactorial.

As you know, the time of the formation of the heart and most of the body's devices is between the second and tenth weeks and because of the complexity of the stages of the fetal heart formation, congenital heart diseases are very high in 8% of cases congenital heart disease due to the reasons One of the most important genetic causes is hydrops such as diaphragmatic hernia of Turner Syndrome Down syndrome.

Parents with a history of congenital heart disease, Marfan syndrome, Noonan de George syndrome, noted common and high genetic mutations in the involved genetics.

Considering the following article summary and the importance of signaling pathway and molecular path, we investigate the path.

Genes regulating complex growth sequences have been largely identified, some genes are associated with certain defects and therefore cause congenital heart defects MYH6 mutations in alpha myosin of cardiac muscle protein with heavy chain MYH6 are associated with vestibular wall defects. There are several proteins that form a complex and interact with homeboxes such as TBX5 and GATA4.

MYH6 gene with NKX2-5 has an effective role in the cause of ventricular vestibular wall defects. NKX2-5 also has an effect on the electrical conductivity of the heart.

In new researches, it has been proven that TBX5 mutations can be induced in these cells by using induced pluripotent stem cells (iPSCs) and genomic editing technology It then induced them to become cardiac cells. Evaluations have shown that numerous genes affected by mutant Tbx5 are expressed at higher or lower levels and this variation in response to mutations causes different symptoms of patients.

Biography

Mehrnaz Ajorloo graduated in reproductive biology Avicenna Research Institute, Medical Student of Shiraz University of Medical Sciences and Genetic Counseling, Tehran University of Medical Sciences, as a researcher in the field of health and having numerous articles and research projects on various diseases and their relationship with genetics and personal medicine, and is currently engaged in COVID- 19 projects and relationships with other countries in the field of health.

Saeed Soroush, medical student of Guilan University of Medical Sciences, as a research physician, has studied many diseases so far And he has presented articles and projects on this subject and COVID-19

31st International Conference on Cardiology and Heart Failure | November 05, 2021

Citation: Mehrnaz Ajorloo, Molecular pathway of congenital heart disease, Heart Summit 2021, 31st International Conference on Cardiology and Heart Failure, November 05, 2021, 07