



LETTER TO THE EDITOR

Risk factors for myocardial ischemia: a current analysis of the topic

Factores de riesgo de la isquemia miocárdica: un análisis desde la actualidad del tema

Carlos David Boris Miclin ^{1*}, <https://orcid.org/0009-0003-7658-7645>

Andrés Rosell Oliva ², <https://orcid.org/0009-0006-5935-6978>

¹ University of Medical Sciences of Santiago de Cuba. Faculty of Medicine No. 2., Santiago de Cuba, Cuba.

² "Saturnino Lora Torres" Provincial Clinical-Surgical Hospital, Santiago de Cuba, Cuba.

* **Corresponding author:** carlosdavidborismiclin@gmail.com

Received: 11/04/2024

Accepted: 20/04/2024

How to cite this article: Boris Miclin CD, Rosell Oliva A. Risk factors for myocardial ischemia: a current analysis of the topic. Med. Es. [Internet]. 2024 [cited access date]; 4(1). Available in: <https://revmedest.sld.cu/index.php/medest/article/view/230>

Dear Director:

According to what was stated by Miguel Hernández et al., ⁽¹⁾ in their article "Risk factors of myocardial ischemia. Study of a biennium", cardiovascular diseases have evolved in recent years in correspondence with the socioeconomic development of countries and the increase in risk factors. Although mortality from ischemic heart disease has decreased in developed countries, it remains the leading cause of death there and is increasing in developing countries. Cardiovascular risk factors are related to personal characteristics, lifestyles and health problems that can cause damage to the arteries and lead to arteriosclerosis.

Articles from MedEst Magazine are shared under the terms of the Creative Commons Attribution-NonCommercial 4.0 International license.

Email: revmedest.mtz@infomed.sld.cu Website: www.revmedest.sld.cu



Currently, the diagnosis of acute myocardial infarction (AMI) in young people has increased due to factors such as work stress, poor eating habits, sedentary lifestyle, obesity, smoking and addictions. Although in some countries the incidence and mortality of AMI has generally decreased, it has increased in young people. ⁽²⁾ To improve these results, it is necessary to become aware of the problem and carry out continuous work to control and improve the quality of care with the participation of all professionals.

Coronary atherosclerosis is strongly linked to different lifestyle habits and personal characteristics that are known as risk factors. These factors may be non-modifiable, such as genetics, age and sex; or modifiable, such as hypercholesterolemia, high blood pressure, diabetes, smoking, obesity, sedentary lifestyle and alcoholism. ⁽²⁾ It is crucial to transform modifiable factors to reduce the risk of ischemic events, both in primary and secondary prevention.

Myocardial ischemia is a condition in which blood flow to the heart muscle is reduced, which can lead to damage or death of heart cells. The risk factors that may contribute to the development of myocardial ischemia are very diverse and include obstruction of the coronary arteries, one of the main causes of myocardial ischemia. Plaque buildup in the arteries can reduce blood flow to the heart.

It is important to keep in mind that these risk factors do not act independently, but are related to each other and can enhance their negative effects on cardiovascular health. Therefore, adopting a healthy lifestyle that includes a balanced diet, regular exercise, not smoking, and controlling risk factors such as hypertension and diabetes, can help reduce the risk of developing myocardial ischemia.

The growth of coronary heart disease is largely due to changes in lifestyle, urbanization and economic development, which increase the risk factors for cardiovascular diseases. Genetic factors and environmental pollution also play an important role in the risk of developing heart disease. ⁽³⁾ Estimation of cardiovascular risk is key in determining prevention priorities in asymptomatic people, in order to allocate resources and create strategies according to needs.

The sudden reduction in coronary blood flow or acute ischemia is usually secondary to epicardial obstruction due to atherothrombosis or coronary spasm. This ischemia is also known as low flow, low supply or low replacement, and is responsible for acute coronary syndromes and sudden death. However, myocardial ischemia should not be defined only as low flow,



since, if oxygen demand is also low, both supply and demand could be balanced.

The American Heart Association has linked the development of heart disease to several risk factors, whether primary or secondary. Some of them, such as tobacco, hypertension and high cholesterol, can have direct biochemical and pathophysiological effects on the heart, in addition to family history and high stress disorders. ⁽⁴⁾

The main causes of cardiovascular diseases in men today are: hypertension and arteriosclerosis. Epidemiological data show that, after a coronary event, the condition of the heart and the degree of injury are more important than any other risk factor. Therefore, there is no doubt that the prevention of these diseases is the most important factor. ⁽⁴⁾

BIBLIOGRAPHIC REFERENCES

1. Miguel Hernández C, Rodríguez Castro A, Rodríguez Castro A, Zamora Brito B, Rosales Solis J. Factores de Riesgo de la Cardiopatía Isquémica. Estudio de un bienio. Rev.MedEst [Internet]. 2022 [cited 14/04/2024]; 2(1) Available in: <https://revmedest.sld.cu/index.php/medest/article/view/53>
2. Alvarado Guzmán MS, Amaya Aguilar JA. Autocuidado relacionado con la calidad de vida en pacientes con cardiopatía isquémica. RevEnfermNeurol [Internet]. 2020 [cited 14/04/2024]; 19(1):3-14. Available in: <https://www.revenferneuroenlinea.org.mx/index.php/enfermeria/articulo/view/280>
3. Dattoli García CA., Jackson Pedroza CN., Gallardo Grajeda AL., Gopar Nieto R, Araiza Garygordobil D, Arias Mendoza A. Infarto agudo de miocardio: revisión sobre factores de riesgo, etiología, hallazgos angiográficos y desenlaces en pacientes jóvenes. Arch. Cardiol. Méx. [revista en la Internet]. 2021 [cited 14/04/2024]; 91(4):485-492. Available in: http://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-99402021000400485&lng=es
4. Cartaya Ortiz E, del Prado de la Torre LM. Factores de riesgo de trastornos coronarios en pacientes con cardiopatía isquémica incluidos en un programa de rehabilitación cardiovascular. MEDISAN [Internet].



2021 [cited 14/04/2024]; 25(1):111-122. Available in:
http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S1029-30192021000100111&lng=es

STATEMENT OF AUTHORSHIP

CDBM: conceptualization, research, methodology, project administration, validation, original draft writing, review, editing.

ARO: Conceptualization, research, methodology, validation, writing of the original draft, review.

CONFLICTS OF INTEREST

The author declares that there is no conflict of interest.

SOURCES OF FUNDING

The author declares that he did not receive funding for the development of this research.

