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Single Nucleotide Variants of the MCM6 Gene as a Risk Factor for Metabolically Unhealthy Obesity in Children

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Abstract

Background: Lactose maldigestion associated with lactase non-persistence is a trigger for persistent meta-inflammation in metabolically unhealthy obesity (MUO), including arterial hypertension, atherogenic-type dyslipidemia, and insulin resistance.

Aim: to study the contribution of single nucleotide variants (SNV) of the gene minichromosome maintenance complex component 6 (MCM6) to the development of MUO in children. **Materials and methods.** 152 obese children aged 6-18 years were genotyped for the MCM6 gene (RT-PCR, Synevo, Ukraine). The main group (n=77) according to the IDEFICS 2014 recommendations was represented by children with MUO. The control group (n=75) consolidated of children with metabolically obesity (MHO). Additionally, whole genome sequencing (NGS, CeGat, Germany) was performed in 27 children of the main and 15 children of the control group. **Verification of results:** odds ratio (OR) estimate, 95% confidence interval (CI), calculation of Spearman's correlation coefficient (r) and p-value for each variable.

Results: Among obese children, 11 MCM6 SNVs were identified (rs61752701, rs141448886, rs201537325, rs2289049, rs3087353, rs1057031, rs143348934, rs3087348, rs4988270, rs2070068). The frequency of MUO (r=0.22; p=0.020) and extreme obesity (r=0.22; p=0.022) was higher in children with with the "wild" genotype MCM6-13910 and was respectively OR 80.0; 95% CI 66.96 - 88.76 and OR 54.0%; 95% CI 40.4 - 67.03, compared with with carriers of mutant genotypes (r=-0,37; p<0,001). OR at MUO to detect SNV MCM6 G/A rs105703 - 2.6 95% CI 0.65-10.

Conclusions: The greatest contribution to the development of MUO in children is made by the G/A rs1057031 genotype out of 11 SNV MCM6 diagnosed by us.

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Relationship Between Vaccines Against Coronavirus Disease 2019 (Covid-19) and Myocarditis

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Abstract

Relationship between vaccines against coronavirus disease 2019 (COVID-19) and myocarditis Lorena Araujo Silva Dias1, Nathalia Monerat Pinto Blazuti Barreto1 IFaculty of Medicine, Centro Universitario de Volta Redonda,

Volta Redonda-Brazil. **Background:** Due to 2019 coronavirus disease (COVID-19) pandemic, it was necessary to develop a vaccine able to reduce the severity of the disease, decreasing hospitalization and death. The approval of the emergency use of these immunizers brought concerns about monitoring possible adverse effects, including myocarditis. **Objective:** To analyse the incidence of myocarditis after immunization against COVID-19. **Method:** Systematic review using the PRISMA method, searching the bibliographic databases PubMed, Cochrane and Scielo, April 2022, with the following descriptors: [covid-19 vaccine] AND [myocarditis] AND [adverse effect]. **Inclusion criteria** were articles published in the last 5 years approaching review, systematic review and meta-analysis type that addressed the association of immunization against COVID-19 with the development of myocarditis, in English. A total of 162 articles were found and 24 were eligible. **Discussion:** Vaccines can induce an immune response including antibodies production against pathogens. Due to COVID19, vaccines were developed with different technologies such as messenger RNA and, as their side effect, myocarditis has been observed, mostly in young adults and male teenagers, days after immunization and usually after the second dose. **Studies** suggest that a possible cause for the male incidence of post-vaccine myocarditis would be the difference in sexual hormones in the immune response. **Conclusion:** More research should be carried out to understand better the risk-benefit ratio of COVID-19 vaccines, even though there are already reports where the benefits and effectiveness of vaccines against COVID-19 have been shown outweighing the risk of myocarditis.

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0050

Zofenopril Treatment Efficacy on Survival, Endostatin and Insulin-Like Growth Factor-1 in Patients with Diabetes Mellitus Type 2 After Acute Myocardial Infarction

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Abstract

The aim: to study zofenopril treatment effect on survival and endostatin and insulin-like growth factor-1 levels in patients with acute myocardial infarction with ST elevation (STEMI) with concomitant diabetes mellitus type 2(T2DM) in 6-month follow up.

Methods: The study was performed in 103 hospitalized patients with T2DM after myocardial infarction with ST elevation. Serum endostatin and IGF-1 levels were measured by enzyme-linked immunosorbent assay on the first day and 24-25 weeks. Two groups were analysed: the first one - treated with inclusion of zofenopril, and the second one -treatment with inclusion of enalapril with the same rest treatment. Cox proportional hazards