



17. THE USE OF MAGNESIUM SALTS IN THE THERAPY OF ARTERIAL HYPERTENSION

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Introduction. Annually, more than 10 million lives are lost due to high blood pressure (HT). A low magnesium content in drinking water leads to increased risk of developing cardiovascular disease (especially coronary heart disease) and sudden death. Magnesium (Mg^{2+}) plays a direct role in the functioning of the endothelial system, controls the contraction-relaxation processes of smooth muscle cells, affects the mechanisms of vascular wall calcification, the coagulation system, systemic inflammation, as well as the conduction system of the heart.

Aim of study. The research aims to analyze the bibliographic data regarding the benefits of Mg^{2+} salts in HT therapy.

Methods and materials. To carry out the study, 21 scientific articles were researched using the following databases: PubMed, MEDLINE, SciSearch, The Thomson Corporation and Cochrane Electronic Library, Google Academic.

Results. Mg^{2+} deficiency has been shown to correlate with a number of chronic cardiovascular diseases, including HT, diabetes mellitus, and hyperlipidemia in many studies. Unfortunately, it is impossible to ensure such an increased intake of Mg^{2+} only by changing the diet. For the long-term treatment of hypomagnesemia, drugs containing Mg^{2+} are used: tablets or oral solution. Thus, the drugs, containing inorganic salts of Mg^{2+} , have absorption of no more than 5%, therefore, to increase bioavailability, Mg^{2+} -salts are used in combination with vit.B6, with potassium and organic ones: aspartic acid, lactic acid, glutamic acid, citric acid, orotic acid. In case of Mg^{2+} deficiency, its additional administration is necessary (10-30 mg/kg per day). Depending on the clinical situation, 25% magnesium sulfate injection is given intravenously slowly in the health-care setting.

Conclusion. Magnesium is an essential electrolyte for living organisms. Magnesium has vasodilatory, anti-inflammatory, anti-ischemic and antiarrhythmic properties. Mg^{2+} supplementation may help reduce cardiovascular risk factors associated with HT caused by Mg^{2+} deficiency due to chronic diuretic use, inadequate intake, or both.