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Inadequate magnesium status is related to factors involved with metabolic syndrome, a risk factor for heart disease, stroke and other cardiovascular diseases. In a recent study, lower magnesium levels correlated with an increased number of metabolic syndrome risk factors.

POOR MAGNESIUM STATUS MAY BE RELATED TO METABOLIC SYNDROME

Metabolic syndrome has been defined as the presence of abdominal obesity combined with two of the following factors: hypertension, dyslipidemia, impaired glucose tolerance, or diabetes mellitus. Magnesium is an essential cofactor for more than 300 enzymes involved in carbohydrate and lipid metabolism.

In a recent study, researchers enrolled 117 overweight and obese patients and measured serum magnesium levels together with fasting serum glucose, high-density lipoprotein cholesterol (HDL), and triacylglycerols. Researchers found a strong inverse relationship between serum magnesium levels and the presence of metabolic syndrome. In addition, as the level of serum magnesium decreased, the number of factors relating to metabolic syndrome increased. Also, there was an inverse relationship between serum magnesium levels and high-sensitivity C-reactive protein (a marker of inflammation).

The scientists concluded that decreased levels of serum magnesium are associated with increased risk for metabolic syndrome, possibly due to a low-grade inflammatory process.

Angelos A, et al. An inverse relationship between cumulating components of the metabolic syndrome and serum magnesium levels. 2008. Nutrition Research 28(10):659-63.