Oral magnesium supplementation: an adjuvant alternative to facing the worldwide challenge of type 2 diabetes?

[Article in Spanish]
Guerrero-Romero F; Rodríguez-Morán M.

Author information
- Unidad de Investigación Biomédica, Instituto Mexicano del Seguro Social, Delagación Durango, Durango, Mexico. guerrero.romero@gmail.com.

Abstract

BACKGROUND:
In the search for answers that contribute to the metabolic control of patients with diabetes and the primary prevention of the disease, we performed a review of the evidence from cohort studies on the relationship between serum and/or magnesium intake with the risk of developing type 2 diabetes as well as of clinical trials on the efficacy of oral magnesium salts on reducing glycemia.

METHODS:
An electronic search using the databases MEDLINE, EMBASE, and Cochrane Controlled Trials Register, updated to September 30, 2013, was performed.

RESULTS:
A total of seven cohort studies (24,388 persons/year) show unequivocally that magnesium intake is associated with decreased risk of developing type 2 diabetes; two studies (13,076 persons/year) indicate that low magnesium intake is not associated with the risk of diabetes; one study (8,735 persons/year) shows that hypomagnesemia is associated with the development of impaired glucose metabolism. A total of 11 randomized controlled trials were identified; five show the effectiveness of oral magnesium salts in reducing glycermia in high-risk subjects and six studies carried out in patients with type 2 diabetes show inconsistent results.

CONCLUSIONS:
Magnesium intake in the customary diet of subjects of the general population and the high-risk groups and/or oral magnesium supplementation is recommended for the prevention of diabetes. The efficacy of oral magnesium supplementation in the reduction of glucose levels in type 2 diabetic patients is inconsistent.