Gac Sanit. 2026;40(S4):336

Gaceta Sanitaria

https://www.gacetasanitaria.org

489 - MAGNESIUM INTAKE IS ASSOCIATED WITH LOWER FEMORAL ATHEROSCLEROSIS IN MEN: THE ARAGON WORKERS' HEALTH STUDY

D.M. Mérida, S. Gimeno-Ruiz, C. Torrijo-Belanche, J. Rey-García, B. Moreno-Franco, P. Guallar-Castillón, L.J. Domínguez

Universidad Complutense de Madrid; Universidad de Zaragoza; Hospital Universitario Rey Juan Carlos; Instituto de Investigación Sanitaria Aragón; CIBERCV; Universidad Autónoma de Madrid; IMDEA-Food Institute; New York University; University of Palermo.

Resumen

Background/Objectives: Magnesium deficiency is associated with an increased risk of atherosclerosis. Several studies have suggested that magnesium may have a protective effect against vascular calcification, a key component of atherosclerosis and unstable plaques. This protective effect has been attributed to its calcium-blocking properties, including the formation of hydroxyapatite and the regulation of calcium transport into cells. We aimed to explore the association between magnesium intake and prevalent femoral atherosclerosis in the Aragon Workers' Health Study (AWHS).

Methods: This is a cross-sectional study of participants in the AWHS, a prospective cohort designed to characterize factors associated with metabolic abnormalities and subclinical atherosclerosis in middle-aged workers from the General Motors Spain car assembly plant in Figueruelas (Zaragoza, Spain). Between January 2011 and December 2014, participants aged 40-60 years underwent ultrasound imaging to assess subclinical atherosclerosis, completed a questionnaire interview on dietary, cardiovascular and lifestyle factors. After exclusions, 2,330 participants were included in the analysis. A plaque was defined as a focal structure protruding ≥ 0.5 mm into the lumen or exhibiting a thickness of at least 50% relative to the surrounding intima. Analyses were performed with logistic regression models adjusted for potential confounders.

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Results: The mean age of the participants was 50.8 years, with a mean magnesium intake of 427.8 mg/day. Overall, 1,300 participants (55.8%) had femoral plaques. When compared with the lowest quartile of magnesium intake, the fully adjusted OR (95%CI) for prevalent femoral atherosclerosis for the third and fourth quartiles were 0.70 (0.50-0.98) and 0.65 (0.43-0.98), respectively (p for linear-trend 0.012). The OR per 100 mg increment was 0.87 (0.74-1.02). Restricted cubic spline confirmed that higher levels of magnesium intake were associated with lower prevalence of femoral plaques.

Conclusions/Recommendations: Higher dietary magnesium intake was inversely and independently associated with a lower prevalence of femoral plaques, suggesting that adequate intake of this vital ion could help prevent peripheral atherosclerosis.

Funding: Health Research Fund FIS PI20-144 and PI23-240 240 (State Secretary of R + D and FEDER/FSE. Instituto de Salud Carlos III. Spain).

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