

Abstract

Am J Gastroenterol. 2008 Feb;103(2):375-82

Long-term effect of magnesium consumption on the risk of symptomatic gallstone disease among men.

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BACKGROUND: Magnesium deficiency can cause dyslipidemia and insulin hypersecretion, which may facilitate gallstone formation. However, the effect of long-term consumption of magnesium on the risk of gallstone disease is unknown.

METHODS: We prospectively studied magnesium consumption and risk of gallstone disease in a cohort of 42,705 U.S. men from 1986 to 2002. Magnesium consumption was assessed using a validated semiquantitative food frequency questionnaire. Newly diagnosed gallstone disease was ascertained biennially.

RESULTS: We documented 2,195 incident cases of symptomatic gallstones during 560,810 person-years of follow-up. The age-adjusted relative risks (RRs) for men with total magnesium intake and dietary magnesium, when the highest and lowest quintiles were compared, were 0.67 (95% confidence interval [CI] 0.59-0.77, P for trend <0.0001) and 0.67 (CI 0.59-0.76, P for trend <0.0001), respectively. After adjusting for multiple potential confounding variables, when extreme quintiles were compared, the multivariate RR of total magnesium intake (RR 0.72, CI 0.61-0.86, P for trend = 0.006) and dietary magnesium (RR 0.68, CI 0.57-0.82, P for trend = 0.0006) remained significant with a dose-response relationship.

CONCLUSIONS: Our findings suggest a protective role of magnesium consumption in the prevention of symptomatic gallstone disease among men.

PMID: 18076730