

Abstract

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Prevalence of hyperhomocysteinemia in adult gluten-sensitive enteropathy at diagnosis: role of B12, folate, and genetics.

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BACKGROUND & AIMS: Hyperhomocysteinemia, a risk factor for thrombosis, recurrent miscarriages, and osteoporosis, might derive from acquired folate and vitamin B 12 deficiencies and from a C677T mutation in methylene-tetrahydrofolate reductase (MTHFR) gene. Undiagnosed **gluten-sensitive enteropathy (GSE)** is associated with vitamin deficiencies, osteoporosis, and recurrent miscarriages. We evaluated the prevalence and the risk factors for hyperhomocysteinemia in patients with newly diagnosed GSE.

METHODS: In this prospective study performed in a tertiary care setting, 40 consecutive subjects with newly diagnosed GSE were evaluated for homocysteine, folate, and vitamin B 12 levels and for C677T polymorphism. One hundred twenty sex- and age-matched healthy control subjects were studied. Nonparametric tests and multiple regression analysis were used to evaluate the risk factors in inducing hyperhomocysteinemia in the GSE population.

RESULTS: Hyperhomocysteinemia was more frequent in GSE patients than in control subjects (8/40, 20.0% vs 7/120, 5.8%) (relative risk, 3.4; 95% confidence interval, 1.3-8.9), as well as folate deficiency (17/40, 42.5% vs 10/120, 8.3%) (relative risk, 5.1; 95% confidence interval, 2.5-10.2). Multiple regression analysis showed that folate and B 12 levels were independently and inversely associated with homocysteine levels, whereas homozygosity for the MTHFR thermolabile variant was not. The prevalence of MTHFR variant in GSE population was not different from that reported in racially comparable control groups. Gluten-free diet was able to normalize folate, vitamin B 12, and homocysteine levels.

CONCLUSIONS: **Hyperhomocysteinemia is frequent in newly diagnosed GSE. Vitamin deficiencies caused by malabsorption are the most important determinants of this condition. Hyperhomocysteinemia might contribute to the occurrence of common complications of undiagnosed GSE.**

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