Increased Prevalence and Mortality in Undiagnosed Celiac Disease


Received 4 February 2009; accepted 31 March 2009; published online 13 April 2009.

Revised, 19 May 2009

Retrieves to article:
Continuing Medical Education Exam 2, July 2009
January 2009

Gastroenterology
July 2009
Vo. 137, Issue 1, Pages 373-374

ABSTRACT

Background & Aims

The historical prevalence and long-term outcome of undiagnosed celiac disease (CD) are unknown. We investigated the long-term outcome of undiagnosed CD and whether the prevalence of undiagnosed CD has changed during the past 50 years.

Methods

This study included 9,133 healthy young adults at Warner Air Force Base (sera were collected between 1948 and 1954) and 12,768 gender-matched subjects from 2 recent cohorts from Olmsted County, Minnesota, with either similar years of birth (n = 5558) or age at sampling (n = 7210) to that of the Air Force cohort. Sera were tested for tissue transglutaminase (tTG) and, if normal, for endomysial antibodies. Survival was measured during a follow-up period of 45 years in the Air Force cohort.

The prevalence of undiagnosed CD between the Air Force cohort and recent cohorts was compared.

Results

Of 9,133 persons from the Air Force cohort, 14 (0.2%) had undiagnosed CD. In this cohort, during 45 years of follow-up, all-cause mortality was greater in persons with undiagnosed CD than among those who were seronegative (hazard ratio = 3.9-95% confidence interval, 2.0-7.5; P < .001). Undiagnosed CD was found in 68 (0.9%) persons with similar age at sampling and 46 (0.8%) persons with similar years of birth. The rate of undiagnosed CD was 4.5-fold and 4-fold greater in the recent cohorts, respectively, than in the Air Force cohort (both P < .001).

Conclusions

During 45 years of follow-up, undiagnosed CD was associated with a nearly 4-fold increased risk of death. The prevalence of undiagnosed CD seems to have increased dramatically in the United States during the past 50 years.

Abbreviations used in this paper: CD, celiac disease; CI, confidence interval; EMA, endomysial antibody; tTG, tissue transglutaminase antibody; WAFB, Warner Air Force Base.

© 2009 AGA Institute. Published by Elsevier Inc. All rights reserved.

Conflicts of interest The authors disclose no conflicts.

Funding Supported in part by the National Institutes of Health (NIH) under Ruth L. Kirshstein National Research Service Award/Training Grant in Gastrointestinal Allergy and Immunology Research T32 AI07047 (A.R.-T.), NIH grants DK57892, DK070331, AR30582 (J.A.M.), DK61617 (W.R.K.), and CA62242 (R.A.K.), and the CTS grant 1UL1RR024150-01 from the National Center for Research Resources.

P1: S0016-5085(09)00523-X
doi:10.1053/j.gastro.2009.03.059

© 2009 AGA Institute. Published by Elsevier Inc. All rights reserved.