

Virus C Hepatitis and Type 2 Diabetes: A Cohort Study in Southern Italy.

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Abstract

The relationship between hepatitis C virus (HCV) infection and type 2 diabetes mellitus (DM 2) is still uncertain. The objective of this study was to evaluate the association between HCV infection, measured as positivity to anti-HCV antibodies, and the incidence of DM 2 in a cohort of subjects sampled from the general population and followed up for 20 years. **METHODS:** At baseline, the cohort consisted of a random sample of 2,472 subjects (72% response rate, age range 30-69 years) from the electoral register of a town in Southern Italy. The cohort subjects were examined three times: in 1985 (M1), in 1992 (M2), and in 2005 (M3). At M1, M2, and M3, each participant filled in a questionnaire and had a blood sample taken to measure blood glucose and other serum variables including glutamic pyruvic alanine aminotransferase (ALT). Anti-HCV antibodies were analyzed with standard techniques at M1 and M2. Diabetes type 2 diagnosis was a history of diabetes and/or serum glucose ≥ 126 mg/dl and/or treatment with insulin or hypoglycemic drugs. Logistic regression was used for multivariable data analysis. **RESULTS:** Diabetes prevalence was higher in subjects with positive anti-HCV antibodies at M1 and M2, and diabetes incidence was higher in subjects with baseline positive anti-HCV antibodies at M1-M2 and lower at M2-M3. In multivariable models, controlling for gender, age, and body mass index (BMI), there was no association between incident cases of diabetes and positive anti-HCV antibodies at baseline, either at M1-M2 (odds ratio (OR) 0.73, 95% confidence interval (CI) 0.43-1.22) or at M2-M3 (0.65, 0.41-1.04). HCV was associated with DM 2 only in subjects with elevated ALT (OR 0.58, 95% CI 0.31-1.08, if ALT normal; OR 1.47, 95% CI 1-2.16, if ALT elevated, controlling for age, gender, and BMI). **CONCLUSIONS:** Our findings, in a cohort study at population level, support an association between the presence of anti-HCV antibodies at baseline and a higher incidence of type 2 diabetes in the following 20 years only in subjects with elevated ALT. *Am J Gastroenterol* advance online publication, 9 April 2013; doi:10.1038/ajg.2013.90.

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