

Prevalence and Long-Term Outcomes of Non-Alcoholic Fatty Liver Disease (NAFLD) Among Lean Individuals without Any Components of Metabolic Syndrome

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Abstract Text

Background: NAFLD is the most common cause of liver disease in the U.S. and closely associated with obesity and metabolic syndrome (MS). In the United States, a small proportion of NAFLD patients are considered lean. Although these patients are less metabolically abnormal than the obese NAFLD, they have more metabolic abnormalities than the lean controls without NAFLD. The prevalence and outcomes of lean and metabolically normal NAFLD in the U.S. is not known. In this study, our aim was to determine the prevalence and long-term outcomes of NAFLD among the lean and metabolically normal individuals in the U.S.

Methods: National Health and Examination Survey III and linked mortality data set was utilized for this study. NAFLD was defined as presence of moderate to severe steatosis by hepatic ultrasound in the absence of other causes of chronic liver disease and excess alcohol use. Lean NAFLD was defined as BMI ≤ 25 and normal waist circumference (≤ 90 cm for males and ≤ 80 cm for females). Age-adjusted mortality rates were adjusted to the 2000 projected U.S. Census population using the age groups 20-39, 40-59, and 60-74. Differences between groups were tested using a t test for a contrasted mean.

Results: The overall prevalence of lean NAFLD in the US population was 7.5% (95% CI: 5.8% to 9.2%). Furthermore, the prevalence of lean NAFLD *without* any metabolic abnormalities [absence of type 2 diabetes (T2DM) or insulin resistance, hyperlipidemia (HL) and hypertension (HTN)] was 5.6% (95% CI: 3.6% to 7.7%). Among the lean population, prevalence of NAFLD increased to 13.2% when both T2DM and HL were present and to 42.3% when T2DM, HTN and HL were present. The age-adjusted overall mortality rate for the lean NAFLD patients without any components of metabolic syndrome (MS such as T2DM, HL, HTN) was similar to the lean controls without NAFLD and or any components of MS (15.5% [95%CI: 4.39-26.59] vs. 13.3% [95%CI: 9.5-17.0], $p=0.70$).

Conclusion: The prevalence of lean NAFLD without components of MS is about 5.6% in the US general population. These individuals with NAFLD don't seem to have increased overall or CV mortality.

Disclosures

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