

Early Obesity: Risk Factor for Fatty Liver Disease

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JOURNAL OF PEDIATRIC GASTROENTEROLOGY AND NUTRITION

Volumen: 70

Número: 1

Páginas: 93-98

DOI: 10.1097/MPG.0000000000002523

Fecha de publicación: JAN 2020

Tipo de documento: Article

[Ver impacto de la revista](#)

Abstract

Nonalcoholic fatty liver disease (NAFLD), defined as fat accumulation greater than 5% in hepatocytes, may progress to fibrosis or cirrhosis later in life. NAFLD prevalence in adolescents has increased significantly in direct relation with obesity prevalence. Fatty liver has become the most frequent indication for liver transplantation in adults. Objective: The aim of the study was to identify anthropometric variables during the first 10 years of life associated to the risk of developing NAFLD in adolescence. Methods: Longitudinal cohort study 'Growth and Obesity Chilean Cohort Study' (GOCS) consisting of 513 children born in 2002 to 2003, with yearly anthropometric data collected over a 10-year period. The presence of intrahepatic fat in the livers of subjects 14 to 16 years of age was determined using abdominal ultrasound. In addition, elastography was performed on all participants with ultrasound evidence of NAFLD. Results: 9.7% of the participants presented findings compatible with NAFLD. After 2 years of age, obesity significantly and progressively increased the probability of NAFLD occurrence in adolescence. Obesity at 5 years of age was associated with the highest OR for NAFLD, reaching values of 8.91 (95% CI 3.03-16.11). Among participants with NAFLD, those with altered liver elasticity (≥ 7 kPa) had greater weight, BMIz-score, waist and hip circumference, and altered liver enzymes ($P < 0.05$). Conclusion: The risk of developing NAFLD in adolescence increases progressively with early obesity starting at age 2 years.

Palabras clave

Palabras clave de autor: [anthropometric risk factors](#); [evolution of nutritional status](#)

KeyWords Plus: [DIAGNOSIS](#); [HEPATOLOGY](#); [FIBROSIS](#); [CHILDREN](#)

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Financiación

Entidad financiadora Mostrar más información	Número de concesión
Comision Nacional de Investigacion Cientifica y Tecnologica (CONICYT) CONICYT FONDECYT	N81161456
Comision Nacional de Investigacion Cientifica y Tecnologica (CONICYT)	N822180234

[Ver texto de financiación](#)

Editorial

LIPPINCOTT WILLIAMS & WILKINS, TWO COMMERCE SQ, 2001 MARKET ST,
PHILADELPHIA, PA 19103 USA

Información de la revista

- **Impact Factor:** [Journal Citation Reports](#)

Categorías / Clasificación

Áreas de investigación:Gastroenterology & Hepatology; Nutrition & Dietetics; Pediatrics

Categorías de Web of Science:Gastroenterology & Hepatology; Nutrition & Dietetics; Pediatrics

Información del documento

Idioma:English

Número de acceso: WOS:000561369900022

ID de PubMed: 31880680

ISSN: 0277-2116

eISSN: 1536-4801