Original Paper

Prevalence of fatty liver in overweight, obese and normal children

Tavakoli M (M.D)[1], Sobhani Shahmirzadi M (M.D)*[2], Zaeri H (M.D)[3] ZhianiAsgharzadeh A [4], Zare M [4], Gharib MH (M.D)[5], Roshandel Gh (MD, Ph.D)[6]

[1]Resident in Pathology, Mashhad University of Medical Sciences, Mashhad, Iran. [2]Assistant Professor, Pediatric Gastroenterologist, Children and Neonates Research Center, Golestan University of Medical Sciences, Gorgan, Iran. [3]Assistant Professor, Pediatric Endocrinologist, Children and Neonates Research Center, Golestan University of Medical Sciences, Gorgan, Iran. [4]Medical Student, Children and Neonates Research Center, Student Research Committee, Golestan University of Medical Sciences, Gorgan, Iran. [5]Assistant Professor, Radiologist, Children and Neonates Research Center, Golestan University of Medical Sciences, Gorgan, Iran. [6]Assistant Professor, Epidemiologist, Golestan Research Center of Gastroenterology and Hepatology, Golestan University of Medical Sciences, Gorgan, Iran.

Abstract

Background and Objective: Nonalcoholic fatty liver disease is the most common cause of liver disease worldwide and it is defined as a disorder of excess fat accumulation in the liver. This study was done to determine the prevalence of fatty liver among overweight, obese and normal children.

Methods: This historical cohort study was conducted on 90 children ages 5 to 13 years old in Taleghani pediatric theching hospital in Gorgan, north of Iran during 2014. Subjects according to Body Mass Index (BMI) classified into obese (95%>BMI), over weight (85-95% BMI) and normal (5-85% BMI). Childern were matched for age and sex. Liver enzymes (ALT Alanine aminotransferase and AST (Aspartate aminotransferase) and lipid profile includingTriglyceride: TG (High Density Lipoprotein: HDL and (Low Density Lipoprotein: LDL were measured and fatty liver evaluated based on sonographic parameters by a radiologist who didnot know children's BMI.

Results: The prevalence of fatty liver was 23.3% in obese children that was non- significantly higher than normal (16.7%) and over weight (16.7%) children. The prevalence of fatty liver was not significantly different between two sexes. AST was significantly higher in children with normal BMI in compared to obese and over weight children ($P<0.05$). The highest and lowest level of cholesterol was seen in obese and normal children ($P<0.05$).

Conclusion: This study showed that the prevalence of fatty liver non-significantly was higher in obese children in comparision with normal and over weight children.

Keywords: Fatty liver, BMI, Liver enzymes, Cholesterol, Child

*** Corresponding Author: Sobhani Shahmirzadi M (M.D), E-mail: sobha48@yahoo.com**

Received 30 Apr 2016 **Revised** 25 Feb 2017 **Accepted** 26 Feb 2017

Cite this article as: Tavakoli M, Sobhani Shahmirzadi M, Zaeri H, ZhianiAsgharzadeh A, Zare M, Gharib MH, Roshandel Gh. [Prevalence of fatty liver in overweight, obese and normal children]. J Gorgan Univ Med Sci. Autumn 2017; 19(3): 47-51. [Article in Persian]