

ABSTRACT

Title: Non Alcoholic Fatty Liver Disease – A cross-sectional study with special emphasis on the role of TNF alpha and TNF alpha gene polymorphisms in disease progression

Department: Department of Gastroenterology and Hepatology

Candidate: Dr. Sudipta Dhar Chowdhury

Degree: DM (Gastroenterology)

Guide: Prof. George Kurian MD, DM, MNAMS

Objectives:

Study the clinical, biochemical and pathological features of patients with NAFLD and also to evaluate, for a role of TNF alpha and its promoter region polymorphisms in the disease.

Methods:

It is a single center, prospective, cross-sectional study, conducted over 2 years. Patients with non alcoholic fatty liver disease confirmed by histology were included in the study. A group of healthy controls were also selected. Anthropometric measurements was compared in both groups. Comparisons were made between those with fibrosis and those without fibrosis. Indirect markers for fibrosis viz, AST/ALT ratio and APRI was evaluated. Enzyme immunoassay was done for serum TNF- α and PCR-RFLP was done for polymorphisms in the TNF- α promoter region (-238 and -308). Statistical analysis was done using STATA software.

Results:

Six (20.7%) patients presented with features of chronic liver disease. Of the rest most were asymptomatic (60.9%). There was significant difference in BMI and WC between of the cases and controls. Diabetes mellitus was present in 20%, and hypertriglyceridemia in 44%. Insulin resistance is present in 83.3% patients with NAFLD. Most patients had evidence of NASH and 48.2% had evidence of liver fibrosis. An older age and a larger waist circumference is associated with an increased risk for fibrosis. AST/ALT ratio and APRI could predict fibrosis in ~ 80% of individuals. No correlation was noted between the TNF- α levels and the NAFLD activity score or the degree of fibrosis. No significant difference was noted in the allele frequency between the cases and controls for both -238 and -308 loci in the TNF α promoter region.