Hepatic Profile of Type 2 Diabetes Mellitus Patients in a Tertiary Care Hospital

Sir,

We intend to report the observations of a study on hepatic profile of type 2 diabetes mellitus (DM) patients in a tertiary care hospital at Coimbatore.

Non alcoholic fatty liver disease (NAFLD) is a spectrum of liver disorders histologically indistinguishable from alcoholic hepatitis but occurring in people who do not consume excess ethanol. It was first described at Ludwig in the year 1997. NAFLD beings as mild steatosis, develops into non alcoholic steatohepatitis (NASH) which can then progress to cirrhosis and even hepatocellular carcinoma.1 Diabetes is now the most common cause of liver disease in the United States and the third leading cause for liver transplantation. Many a case of cryptogenic cirrhosis in the past may have been caused by progression of steatohepatitis to cirrhosis. With India becoming the Asian capital of diabetes and fast emerging as the diabetic capital of the world, early detection and prevention of this diabetic liver disease is important. Imaging modalities can easily identify fatty liver disease but are incapable of differentiating simple steatosis from steatohepatitis. Presently only liver biopsy can identify NASH. Various studies were conducted to identify non invasive modalities for early diagnosis of NASH. Liver enzyme elevation was found to be associated with NASH in many studies done abroad. Hence we embarked upon a study to define the hepatic profile of type 2 DM patients in South India.

The study was conducted over a period of 2 months and 118 patients were included. The inclusion criteria was, any adult with type 2 DM and exclusion criteria were history of drug intake other than oral antidiabetic drugs, history of jaundice and intake of alcohol or native medicines. Demographic details, family history and BMI were recorded. Investigations done included blood sugar, liver function and total cholesterol. Fifty two patients underwent ultrasonography. Of the 118 patients, 47 (40%) were men and 71 (60%) women. Elevated AST, ALT (> 35 IU/L), ALP (> 120 IU/L) and serum bilirubin (> 1 mg%) were found in 6.8%, 4.2%, 31.4% and 25% respectively. Twenty three of the 52 (44.2%) patients who underwent ultrasonography had fatty liver. Eight (34.8%) were men and 15 (65.2%) women. All 8 men had grade I fatty liver while 2 of 15 women had grade II fatty liver and the rest grade I.

The patients were divided into two groups, with and without fatty liver. Various parameters were analyzed for significant differences. BMI was found to be significantly higher (p < 0.05) in the group with fatty liver. There was no significant difference in the liver enzymes, AST/ALT ratio or other parameters between the two groups as shown in some previous studies.2 Other studies have found liver enzymes to be elevated in NASH.2 The present study could not find any statistically significant difference of liver enzymes in the diabetic population of south India with or without fatty liver. Hence liver enzymes seem to be an unlikely non invasive tool which would help us to identify NASH early and prevent further complications. More research is needed to identify a non invasive marker for steatohepatitis.

SR Chandran*, P Vishnuram**
*Junior Resident; **Asst. Professor; Department of General Medicine, Coimbatore Medical College Hospital, Trichy Road, Coimbatore – 18.
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