ABSTRACT

Diabetes mellitus (DM) is a chronic metabolic disorder characterized by persistent hyperglycemia. It may be due to impaired insulin secretion, resistance to peripheral actions of insulin, or both. DM is proving to be a global public health burden as this number is expected to rise to another 200 million by 2040. In this study, we do evaluation and comparative analysis of hepatic and renal profile of diabetic and non-diabetic patients and their relationship with blood sugar level. Both the hepatic and renal dysfunction is a risk factor for the progression of diabetes. The hepatic function is measured through its biomarkers, which are the enzyme. These biomarkers are alanine" aminotransferase" (ALT), aspartate" aminotransferase" (AST), alkaline" phosphatase" (ALP), gamma-glutamyl" transferase" (GGT), glycosylated" hemoglobin" (HbA1c), hepatitis" B surface" antigen (HBsAg), and anti-hepatitis" C antibody" studies. The normal" ranges" for the labs were" as follows: ALT: 10 – 40" international" units per" liter (IU/L), AST": 10 - 35 IU/L", GGT": 5 - 30 IU/L", and ALP": 80 – 290" IU/L. By analysis the enzymatic profile of liver, we can find the factor that lead to the development of diabetic type 2 disease. In this study our focus was on AST, ALT and alkaline phosphatase and then correlate them with the blood sugar level of the patient. For that purpose a survey was conducted. Data collection is done through survey software with 96% confidence interval. A hepatic disease risk factor is identified as type 2 diabetes mellitus. Because there is abnormal liver enzyme prevalence in different populations, this may translate to different values that are influenced by ethnicity, demography, sex and age. This study's aim was to investigate abnormal liver function prevalence including elevated AST and elevated ALT in a Pakistani general population-based sample with type 2 diabetes mellitus. I compared the all variables of affected males with affected females. In which some variables are directly proportional in both but some are not on a same way. These studies show AST as an abnormal parameter in the population suffering from diabetic disease. AST is present in the mitochondria and ALT is located in the hepatocellular cytosol. Non-alcoholic fatty liver disease is the major cause of increase in the level of AST and ALT, which leads to the development diabetic type 2 diseases. Some studies also suggest that increase in the level of transaminase and elevated level of triglycerides in body contributes to the development of diabetic type 2 disease. Nonalcoholic" fatty" liver disease", Being" overweight, people" with greater" number of incidence" of liver malfunctioning" and renal" malfunction, higher serum" concentrations" of AST, "ALT, GGT, and" ALP and insulin" resistant are the risk factors" associated with" diabetes type" 2 disease. The drawback of this research is that we

cannot draw the casual inferences from that and does give any information about the mechanism involved in the dysfunction f hepatic and renal tracks. But research have opened new horizons for research and development of medicine by finding the suitable potential inhibitors of the enzyme involved in diabetes type 2 disease, we can develop medicines for that and can overcome the problem.