

Is HOMA-IR a potential screening test for non-alcoholic fatty liver disease in adults with type 2 diabetes?

Non-alcoholic fatty liver disease (NAFLD) is increasingly recognized as a major cause of liver related morbidity and mortality, because of its potential to progress to cirrhosis and liver failure. Patients with type 2 diabetes mellitus (T2DM) appear to have an increased risk of developing NAFLD. This study is a retrospective cohort study included 100 patients with type 2 DM from the outpatient clinic of internal medicine department at Fayoum University Hospital from (December, 2017 to June, 2018). They were divided into two equal groups according to the presence of NAFLD by ultrasound. All patients were subjected to history taking, clinical examination and investigations which included: ALT, AST, total cholesterol, TG, FBG and fasting insulin level.

HOMA-IR was calculated by the following formula: $\text{HOMA-IR} = [\text{plasma glucose (mg/dL)} \times \text{plasma insulin } (\mu\text{U/mL})] / 405$. An association between HOMA-IR and NAFLD was found (OR: 1.25; 95% CI: 1.04 to 1.51; $p = 0.020$). A value of HOMA-IR of 4.2 was estimated to be an optimal threshold for discriminating NAFLD from non-NAFLD cases. The results of this work showed that elevated HOMA-IR is independently associated with the presence of NAFLD in adults with T2DM.