

Performance of risk scores for Non-alcoholic Fatty Liver Disease in the Emirati population

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Background

Non-alcoholic fatty liver disease (NAFLD) is common worldwide. Early (NAFL) can be distinguished from more serious non-alcoholic steatohepatitis (NASH), fibrosis and cirrhosis based on imaging and clinical scoring systems. The latter have not been validated in Arab populations.

Aims

We aimed to establish the utility of the available screening tests to predict NAFLD in our population.

Methods

Emiratis (n=155) recruited by convenience sampling from clinical areas at ICLDC, Abu Dhabi had liver ultrasound and Acoustic Force Radiation Imaging (“elastography”) performed using the ACUSON S2000 system. Liver steatosis was graded according to the criteria of Strauss et al. Fatty liver index (FLI), Liver Fat Score (LFS), NAFLD Fibrosis and HAIR scores were calculated as described.

Results

FLI and LFS demonstrate poor sensitivity (59.1% and 59.2%) and specificity (58.1% and 60.2%) for any grade of NAFLD. Positive predictive value (PPV) is low (60.0% and 60.2% respectively) while negative predictive value (NPV) was less than 60% in both. NAFLD fibrosis and HAIR scores demonstrated good NPV in discriminating moderate to severe fibrosis from simple FL (99.1% and 100% respectively); PPV was poor (18.8% and 6%). Log-transformed ALT, insulin and gamma-glutamyltransferase as well Type-2 Diabetes were significant and independent predictors of US-diagnosed fatty liver in our population.

Conclusions

Our data indicates screening the general outpatient population for liver fibrosis using clinical risk score is feasible. NAFLD fibrosis and HAIR scoring systems for NASH can prove of use in the exclusion of moderate to severe fibrosis in our population. FLI and LFS are likely to be of little clinical use.