

PREVALENCE AND RISK FACTORS OF FATTY LIVER DISEASE AMONG HOSPITALIZED TYPE 2 DIABETES PATIENTS IN UZBEKISTAN

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Abstract

Background: Fatty liver disease is emerging as a public health issue worldwide and highly prevalent in patients with type 2 diabetes mellitus (T2DM). Liver fibrosis is the predictive factor for liver-related events and prognosis in patients with fatty liver disease among T2DM patients. For this reason, the determination of advanced fibrosis is important and practical. This study aimed to determine the prevalence of fatty liver disease, risk factors and advanced fibrosis (defined by using the FIB-4 index) among hospitalized T2DM patients in Uzbekistan.

Methods: The cross-sectional study was conducted in our study. The data from 783 medical records with T2DM patients (aged 18-85 years) were collected retrospectively in the Republican Specialized Scientific Center of Endocrinology in Tashkent (RSSCE) and Ferghana regional Endocrinological Dispensary (FED) in the Republic of Uzbekistan. All records in October and November 2020 were included and patients with type 1 diabetes mellitus, other chronic liver diseases (hepatitis C and B, autoimmune hepatitis), and without ultrasound examination were excluded. Fatty liver was diagnosed by ultrasonography. The multivariate analyses were used to evaluate risk factors for fatty liver as well as advanced fibrosis (FIB-4 >2.67). Fatty liver was diagnosed by ultrasonography.

Result: The present study showed that the overall prevalence of the fatty liver disease among hospitalized T2DM patients, based on ultrasound examination was 55.2% (95%CI:51.6%-58.6%). In a multivariate analysis, the risk of fatty liver disease was significantly higher among overweight (adjusted OR = 1.751, 95% CI: 1.0437-2.3879), Obese (adjusted OR = 5.093, 95% CI: 3.291-7.883) and hypertension patients (adjusted OR = 2.3879, 95% CI: 1.50497-3.781). The prevalence of advanced fibrosis (FIB-4 >2.67) among fatty liver disease patients (n=319) was 4.4 % (95%CI:3.985%-5.0495%) and without fatty liver disease patients (n=204) was 3.9% (95%CI:3.21%-4.6059%) by using the FIB-4 index. There was no significant difference in the frequency of advanced fibrosis with or without fatty liver. The advanced fibrosis slightly

higher among fatty liver disease patients but it was not statistically significant($p=0.965$). In the multivariate analysis showed that only age ≥ 60 years(adjusted OR =3.690; 95% CI: 1.3326-10.267) were independently associated with progression to advanced fibrosis among T2DM.

Conclusion: In our study, fatty liver disease was seen by more than half of the hospitalized T2DM patients in Uzbekistan. Overweight, Obese and hypertension were significant factors associated with a higher risk of fatty liver disease among T2DM patients. Also, our result indicated that the FIB-4 index is unsuitable to estimate advanced fibrosis among hospitalized T2DM patients.