

Prevalence and profile of fibrosis in diabetic patients with non-alcoholic fatty liver disease and the associated factors

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Abstrak

Background: the risk of Non Alcoholic Fatty Liver Disease (NAFLD) is increasing in patients with type 2 diabetes. Prevalence and factors related to the increased risk of NAFLD in diabetic patients in Indonesia has never been studied before. Data regarding the profile of fibrosis in the population has also been unknown. This study aimed to identify the difference on the profile of diabetic patients with and without NAFLD as well as the degree of fibrosis.

Methods: the study was conducted using a cross sectional method in type 2 diabetic patients who were treated at the outpatient clinic of endocrinology and metabolic division in Cipto Mangunkusumo Hospital. Sampling was done consecutively. Collected data comprised of age, duration of diabetes, body mass index (BMI), waist circumference, HDL, triglyceride, and HbA1C levels. Abdominal ultrasonography was conducted for all patients to determine the presence of NAFLD. Patients with NAFLD were subsequently underwent transient elastography in order to assess their degree of liver fibrosis. Chi-square or Fishers Exact tests were used for bivariate analysis and logistic regression was used for multivariate analysis.

Results: as many as 186 patients were analyzed in the study and 84 patients (45.2%) were demonstrated to have NAFLD. Transient elastography examinations were carried out in 68 patients and 17 patients (25.0%) were found with severe fibrosis. Univariate analysis showed significant differences on BMI (PR=1.878; 95%CI= 1.296 2.721; $p<0.001$) and waist circumference (PR=2.368; 95%CI= 1.117 5.017; $p=0.018$) between patients with and without NAFLD. However, the multivariate test showed that BMI was the only factor that had a significance difference between both groups (OR=2.989; 95%CI=1.625-5.499; $p<0.001$). **Conclusion:** prevalence of NAFLD among type 2 diabetic patients in Cipto Mangunkusumo Hospital has reached 45.2% and 25.0% among them had severe fibrosis. BMI is the only factor found to be associated with the occurrence of NAFLD.

.....Latar belakang: risiko non-alcoholic fatty liver disease (NAFLD) meningkat pada pasien dengan diabetes melitus (DM) tipe 2. Prevalensi dan faktor-faktor yang berhubungan dengan peningkatan risiko NAFLD pada populasi DM di Indonesia belum pernah diteliti. Profil derajat fibrosis pada populasi ini juga masih belum diketahui. Tujuan penelitian ini mengetahui perbedaan profil pasien DM dengan atau tanpa NAFLD serta derajat fibrosisnya. Metode: penelitian dikerjakan secara potong lintang terhadap pasien DM tipe 2 dewasa yang berobat di poliklinik endokrin metabolik RSCM. Pengambilan sampel dilakukan secara konsekutif. Data yang dikumpulkan mencakup usia, lama diabetes, indeks masa tubuh (IMT), lingkar pinggang, kadar HDL, trigliserida, dan HbA1C. Ultrasonografi abdomen dikerjakan pada semua pasien untuk menentukan adanya NAFLD. Pasien dengan NAFLD lalu menjalani pemeriksaan elastografi transien untuk menilai derajat fibrosis. Uji Chi Square atau Fischer's-Exact digunakan untuk analisis bivariat dan regresi logistik digunakan untuk analisis multivariat. Hasil: sebanyak 186 pasien dianalisis dalam studi ini, dengan 84 pasien (45,2%) terbukti mengalami NAFLD. Elastografi transien berhasil dikerjakan pada 68 pasien NAFLD, dengan 17 pasien (25,0%) terbukti mengalami fibrosis berat. Analisis univariat menunjukkan

perbedaan signifikan IMT (PR=1,878; 95% CI= 1,296-2,721; $p<0,001$) dan lingkar pinggang (PR=2,368; 95% CI= 1,117-5,017; $p=0,018$) antara kelompok NAFLD dan tidak. Namun pada uji multivariat, IMT merupakan satu-satunya faktor yang berbeda bermakna antara kedua kelompok (OR=2,989; 95%CI=1,625-5,499; $p<0,001$).

Kesimpulan: prevalensi NAFLD pada pasien DM tipe 2 di RSCM mencapai 45,2%, dengan 25,0% di antaranya mengalami fibrosis berat. IMT merupakan satu-satunya komponen dalam studi ini yang berhubungan dengan kejadian NAFLD