

# Proporsi dan Faktor-Faktor yang Berhubungan dengan Non-Alcoholic Fatty Pancreas Disease (NAFPD) pada Pasien Diabetes Melitus Tipe 2 = Proportion of Non Alcoholic Fatty Pancreas Disease (NAFPD) and Its Associated Factors in Type 2 Diabetes Mellitus Patients

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## Abstrak

Latar Belakang: Pemahaman tentang non-alcoholic fatty pancreas disease NAFPD dan makna klinisnya perlu terus ditingkatkan mengingat NAFPD diduga dapat berlanjut menjadi pankreatitis kronik dan memicu terjadinya kanker pankreas. NAFPD berhubungan erat dengan diabetes melitus tipe 2 DMT2 dan pasien diabetes berisiko 2x lipat untuk mengalami kanker pankreas. Proporsi dan faktor-faktor yang berhubungan dengan NAFPD pada populasi DMT2 belum pernah diteliti.

Tujuan: Mengetahui proporsi dan faktor-faktor yang berhubungan dengan NAFPD pada populasi DM tipe 2.

Metode: Pasien DMT2 dewasa yang berobat di poliklinik metabolik endokrin Rumah Sakit Cipto Mangunkusumo RSCM direkrut secara konsekutif pada studi potong lintang ini. Data usia, jenis kelamin, lama DM, komorbid, obat-obatan, lingkaran pinggang, profil lipid dan HbA1C dikumpulkan. Ultrasonografi hepatobilier dilakukan pada setiap pasien untuk menentukan adanya NAFPD dan non-alcoholic fatty liver disease NAFLD. Hubungan NAFPD dengan parameter usia, jenis kelamin, lama DM, hipertensi, NAFLD, trigliserida dan HbA1C diuji kemaknaanya.

Hasil Penelitian: Dari 171 pasien DMT2 yang direkrut dalam studi ini didapatkan proporsi NAFPD sebesar 48,5% (95%IK=41,2-55,9%). Analisis univariat menunjukkan perbedaan signifikan di antara kelompok NAFPD dan non-NAFPD dalam hal proporsi NAFLD (PR=1,96; 95%IK=1,41-2,74; p<0,001) dan hipertrigliseridemia (PR=1,38; 95%IK=1,02-1,86; p=0,042). Pada analisis multivariat usia lanjut (OR=2,15; 95%IK=1,10-4,23), NAFLD (OR=3,65; 95%IK=1,90-6,99) dan hipertrigliseridemia (OR=2,03; 95%IK=1,02-4,05) menunjukkan hubungan yang signifikan dengan kejadian NAFPD. Tidak ditemukan hubungan yang bermakna antara jenis kelamin, lama DM, hipertensi, serta kadar HbA1C dengan kejadian NAFPD.

Kesimpulan: Proporsi NAFPD pada populasi DMT2 sebesar 48,5%. Usia lanjut, NAFLD dan hipertrigliseridemia merupakan faktor-faktor yang berhubungan dengan kejadian NAFPD pada pasien DMT2.

.....Background: Understanding of non alcoholic fatty pancreas disease NAFPD and its clinical significance needs to be continuously improved as NAFPD might allegedly develop into chronic pancreatitis and further leads to pancreatic cancer. NAFPD is strongly associated with type 2 diabetes mellitus T2DM and long term T2DM is associated with a 1.5 to 2.0 fold increase in the risk of pancreatic cancer. The proportion of NAFPD and its associated factors in T2DM population has not been well investigated.

Aim: To investigate the proportion of NAFPD and its associated factors in type 2 DM population.

Methods: Adult T2DM patients who visited Diabetes Clinic, Cipto Mangunkusumo Hospital were consecutively recruited in this cross sectional study. Information about age, sex, duration of diabetes, komorbidities, medication, waist circumference, lipid profile and HbA1C were collected. Abdominal ultrasonography was performed on each subject to diagnose NAFPD and non alcoholic fatty liver disease

NAFLD . Association of NAFLD with age, sex, duration of diabetes, hypertension, NAFLD, triglyceride and HbA1C were examined.

Study Results: From total of 171 T2DM patients in this study, the proportion of NAFLD was 48.5% (95%CI= 41.2 to 55.9%). Univariate analysis showed significant differences between NAFLD and non-NAFLD group regarding proportion of NAFLD (PR=1.96; 95%CI=1.41-2.74;  $p<0.001$ ) and hypertriglyceridemia (PR=1.38; 95%CI=1.02-1.86;  $p=0.042$ ). On multivariate analysis older age (OR=2.15; 95%CI=1.10-4.23), NAFLD (OR=3.65; 95%CI=1.90-6.99), and hypertriglyceridemia (OR=2.03; 95%CI=1.02-4.05) showed significant association with NAFLD. There were no significant association found among sex, duration of diabetes, hypertension and high levels of HbA1C with NAFLD.

Conclusion: The proportion of NAFLD in T2DM population is 48.5%. Older age, NAFLD and hypertriglyceridemia are associated factors of NAFLD in T2DM patient.