KORELASI KADAR GULA DARAH PUASA DAN HBA1C PASIEN DIABETES MELLITUS TIPE 2 DENGAN DERAJAT *NON-ALCOHOLIC FATTY LIVER DISESAE* PADA PEMERIKSAAN ULTRASONOGRAFI ABDOMEN

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INTISARI

Latar Belakang: *Non-alcoholic fatty liver disease* (NAFLD) merupakan penyebab utama penyakit hepar kronis di seluruh dunia. NAFLD ditandai dengan adanya akumulasi lemak berlebih pada hepar. Ultrasonografi memungkinan secara subjektif memperkirakan tingkat infiltrasi lemak dalam hepar. Pasien T2DM memiliki risiko lebih tinggi terkena NAFLD.

Tujuan: Menilai adanya korelasi antara kadar gula darah puasa dan HbA1c pada pasien T2DM dengan derajat NAFLD pada ultrasonografi abdomen di RS Akademik UGM Yogyakarta.

Metode: Penelitian ini menggunakan desain *cross-sectional*, dilakukan di Instalasi Radiologi RS Akademik UGM Yogyakarta, dengan mengambil data sekunder dari rekam medis elektronik (*sirs*) dari 1 Januari 2021-31 Desember 2023. Sejumlah 53 sampel didapatkan dari pencarian tersebut. Data diambil dari alat USG Volluson S8, dan dilakukan uji analisis korelasi menggunakan *Spearman*.

Hasil: Dari 53 subjek, mayoritas pasien berjenis kelamin perempuan (64,2%), usia terbanyak ≥ 50 tahun (58,3%), dan BMI terbanyak dalam kategori Obese (34,0%). Hasil korelasi *Spearman* menunjukkan korelasi signifikan antara kadar gula darah puasa dengan derajat NAFDL pada USG abdomen (r=0,485, p<0,001) dan kadar HbA1c dengan derajat NAFDL pada USG abdomen (r=0,346, p=0,011).

Kesimpulan: Terdapat korelasi positif yang signifikan dengan kekuatan sedang antara kadar gula darah puasa dengan derajat NAFLD, korelasi positif dengan kekuatan lemah antara kadar HbA1c dengan derajat NAFLD pada pemeriksaan ultrasonografi abdomen.

Kata Kunci: NAFLD, Gula Darah Puasa, HbA1c, USG.

CORRELATION OF FASTING BLOOD SUGAR LEVEL AND HBA1C IN TYPE 2 DIABETES MELLITUS PATIENTS WITH NON-ALCOHOLIC FATTY LIVER DISEASE ON ABDOMINAL ULTRASONOGRAPHY EXAMINATION

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ABSTRACT

Background: Non-alcoholic fatty liver disease (NAFLD) is the leading cause of chronic liver disease worldwide. NAFLD is characterized by excessive fat accumulation in the liver. Ultrasonography allows subjectively estimating the extent of fatty infiltration in the liver. T2DM patients have a higher risk of developing NAFLD.

Objective: To assess the correlation between fasting blood sugar and HbA1c levels in T2DM patients with the degree of NAFLD on abdominal ultrasonography at UGM Academic Hospital Yogyakarta.

Methods: This study used a cross-sectional design, conducted at the Radiology Installation of UGM Academic Hospital Yogyakarta, by retrieving secondary data from electronic medical records (sirs) from January 1, 2021 to December 31, 2023. A total of 53 samples were obtained from the search. Data were collected from the Volluson S8 ultrasound device, and a correlation analysis test was performed using Spearman.

Results: Of the 53 subjects, the majority of patients were female (64.2%), the most age ≥ 50 years (58.3%), and the most BMI in the Obese category (34.0%). The Spearman correlation results showed a significant correlation between fasting blood sugar levels and the degree of NAFDL on abdominal ultrasound ($r=0.485$, $p<0.001$) and HbA1c levels with the degree of NAFDL on abdominal ultrasound ($r=0.346$, $p=0.011$).

Conclusion: There is a significant positive correlation with moderate strength between fasting blood sugar levels and the degree of NAFLD, a positive correlation with weak strength between HbA1c levels and the degree of NAFLD on abdominal ultrasound examination.

Keywords: NAFLD, Fasting Blood Sugar, HbA1c, Ultrasound.