Perbedaan rerata kadar Intestinal Fatty Acid Binding Protein (I-FABP) pada penyandang obesitas dengan dan tanpa diabetes melitus tipe 2 di Indonesia = The mean difference of Intestinal Fatty Acid Binding Protein (I-FABP) in obesity with and without type 2 diabetes melitus in Indonesia

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Abstrak

Latar Belakang: Terdapat dua jenis obesitas berdasarkan risiko kardiometaboliknya, yaitu metabolically healthy obese (MHO) dan metabolically unhealthy obese (MUO). Kelompok MUO lebih berisiko mengalami DM tipe 2 karena terdapat resistensi insulin yang dicetuskan endotoksemia metabolik akibat disbiosis usus, melalui peningkatan permeabilitas usus. Belum ada data mengenai perbedaan permeabilitas usus, yang diwakili oleh kadar intestinal fatty acid binding protein (I-FABP), pada penyandang obesitas dengan dan tanpa DM tipe 2 di Indonesia.
Tujuan: Mengetahui perbedaan rerata kadar I-FABP pada penyandang obesitas dengan dan tanpa DM tipe 2 di Indonesia.
Metode: Studi potong lintang menggunakan data sekunder dari penelitian Divisi Endokrin, Metabolik, Diabetes FKUI-RSUPN Dr. Cipto Mangunkusumo, Jakarta yang berjudul “Profil Mikrobiota Usus, Mikrobiota Rongga Mulut, Inflamasi, dan Resistensi Insulin pada Berbagai Spektrum Disglikemia” periode Juli 2018-Agustus 2019. Sebanyak 63 subjek obesitas berdasarkan kriteria WHO untuk Asia (IMT 25 kg/m2) dibagi menjadi 2 kelompok berdasarkan kriteria ADA: dengan dan tanpa DM tipe 2. Kadar I-FABP diperiksa dengan metode Enzyme-linked immunosorbent assay. Analisis data dengan uji T tidak berpasangan untuk perbedaan rerata I-FABP. Uji regresi logistik dilakukan untuk faktor perancu.
Hasil: Mayoritas subjek ialah perempuan (82,53%), usia >45 tahun (63,50%), obesitas grade I (54,00%), obesitas sentral (93,70%). Rerata I-FABP pada kelompok dengan DM tipe 2 lebih tinggi, yaitu 2,82 (1,23) ng/mL vs. 1,78 (0,81) ng/mL (p<0,001; IK95% 0,51-1,55).
Simpulan: Rerata kadar I-FABP lebih tinggi pada kelompok obesitas dengan DM tipe 2 dan independen terhadap faktor usia.
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Background: There are two types of obesity based on its cardiometabolic risk, which are metabolically healthy obese (MHO) and metabolically unhealthy obese (MUO). The MUO exerts higher risk to develop type 2 DM because of higher state of insulin resistance due to metabolic endotoxemia through gut dysbiosis and increased intestinal permeability. There is no study regarding the difference of intestinal permeability, using intestinal fatty acid binding protein (I-FABP), in obese people with and without type 2 DM in Indonesia.
Objective: To know the mean difference of I-FABP in obese people with and without T2DM in Indonesia.
Method: A cross-sectional study using secondary data from the study of Division of Endocrine, Metabolism and Diabetes FMUI-RSUPN Dr. Cipto Mangunkusumo, Jakarta entitled "Profile of the Intestinal Microbiota, Oral Cavity Microbiota, Inflammation, and Insulin Resistance in Various Spectrums of Dysglycemia" for the period July 2018-August 2019. A total of 63 obese subjects based on WHO criteria for

Asia (BMI 25 kg/m2) were divided into 2 groups based on ADA criteria for diabetes: with and without T2DM. The I-FABP levels were checked using enzyme-linked immunosorbent assay method. Data was analyzed using unpaired T test for mean difference of I-FABP while logistic regression test was performed for confounding factors.
Results: The majority of the subjects were women (82.53%), age >45 years (63.50%), obesity grade I (54.00%) and central obesity (93.70%). The I-FABP level of T2DM group was higher compared to without T2DM group, namely 2.82 (1.23) ng/mL vs. 1.78 (0.81) ng/mL ($p<0.001$; 95% CI 0.51-1.55).
Conclusion: The mean level of I-FABP was higher in the obese group with T2DM which is independent of age.