Profil Adipocyte Fatty Acid Binding Protein dan Intercellular Adhesion Molecule-1 Pada First Degree Relatives Diabetes Mellitus Tipe 2 = Adipocyte Fatty Acid Binding Protein dan Intercellular Adhesion Molecule-1 Profile in Type 2 Diabetes Mellitus First Degree Relatives

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Abstrak

Latar Belakang. Subjek first degree relatives (FDR) diabetes mellitus (DM) tipe 2 berisiko berkembang menjadi DM tipe 2 dan kejadian aterosklerosis lebih tinggi daripada subjek tanpa riwayat orang tua dengan DM tipe 2. Studi ini bertujuan untuk melihat perbedaaan rerata kadar Adipocyte fatty acid binding protein (A-FABP) yang berperan dalam berkembangnya DM tipe 2 maupun aterosklerosis, dan Intercellular Adhesion Molecule-1 (ICAM-1) sebagai penanda disfungsi endotel pada kelompok FDR DM tipe 2 dan kelompok non-FDR DM tipe 2. Serta melihat korelasi A-FABP dan ICAM-1 pada FDR DM tipe 2.
Metode. Penelitian ini merupakan bagian dari payung penelitian FDR tahun 2018, dengan desain potong lintang, yang memeriksakan kadar A-FABP dan ICAM-1 serum dengan metode sandwich enzyme-linked immunosorbent assay (ELISA). Subjek yang dilibatkan berusia 19 tahun sampai di bawah usia 40 tahun, yang normotensi dan normoglikemia. Serum yang diambil disimpan dalam suhu -80°C. Hasil yang ada dilanjutkan analisis beda rerata dan uji korelasi kelompok FDR dan non-FDR.
Hasil dan Diskusi. Dari 115 subjek normoglikemi normotensi, didapatkan kadar A-FABP yang lebih tinggi pada FDR DM tipe 2 dibandingkan non-FDR DM tipe 2 dengan median (rentang interkuartil) berturut-turut 5,44 ng/ml (3,99-6,40) dan 4,99 ng/ml (3,35-6,70), namun tidak bermakna secara statistik (p=0,54). Demikian juga kadar ICAM-1 pada populasi FDR DM tipe 2 yang tidak berbeda bermakna dibandingkan kelompok non-FDR DM tipe 2, dengan median 276,70 ng/ml (230,60-375,20) dan 272,55 ng/ml (223,95-318,22) berturut-turut (0=0,21). Tidak ditemukan korelasi bermakna A-FABP dan ICAM-1 pada FDR DM tipe 2 (p=0,276).
.....Background. The subject of first-degree relatives (FDR) diabetes mellitus (DM) type 2 had a risk of developing into type 2 DM and the incidence of atherosclerosis was higher than subjects without parents with type 2 DM. This study aims to see the mean difference of adipocyte fatty acid binding protein (A-FABP) level which plays role in the development of type 2 DM and atherosclerosis, and Intercellular Adhesion Molecule-1 (ICAM-1) level as a marker of endothelial dysfunction between FDR type 2 DM group and the non-FDR type 2 DM group. Moreover, to see the A-FABP and ICAM-1 correlation on FDR DM type 2.
Method. This study is part of FDR study held on 2018. Normotensive and normoglycemic subjects aged 19 to under 40 years old were included. The extracted serum was stored at -80C. Serum A-FABP and ICAM-1 levels were measured using the enzyme-linked immunosorbent assay (ELISA) method. The results were followed by a mean difference analysis and a correlation test for the FDR and non-FDR groups.
Results and Discussion. Of the 115 subjects, A-FABP levels were higher in FDR type 2 DM than in non-FDR type 2 DM with median (interquartile range) of 5,44 ng/ml (3,99-6,40) and 4,99 ng/ml (3,35-6,70) respectively, and not statistically significant (p=0,54). Likewise, the level of ICAM-1 in FDR type 2 DM subjects was not statistically significant different from non-FDR type 2 DM subjects, with a median of

276.70 ng / ml (230.60-375.20) and 272.55 ng / ml (223.95-318.22) respectively (0 = 0.21). There was no significant correlation between A-FABP and ICAM-1 in FDR type 2 DM (p=0,276).
Conclusion. There were no significant differences of A-FABP and ICAM-1 levels between FDR and non-FDR type 2 DM groups. There were no correlation between A-FABP and ICAM-1 in the FDR type 2 DM group.