INTISARI

Latar Belakang: *FiberCreme*^{TM} merupakan krimer komersil dengan komponen IMO terbukti memiliki efek hipolipidemik. Efek antihiperlipidemia *FiberCreme*^{TM} diduga berpotensi menurunkan risiko aterosklerosis, yang dapat diprediksi dengan koefisien aterogenik. Variasi genetik *CYP7A1* rs3808607 dan *TCF7L2* rs7903146 diperkirakan memengaruhi respon gen terhadap intervensi kukis FiberCreme-IMO^{TM} pada kolesterol total dan HDL sebagai parameter koefisien aterogenik.
Tujuan Penelitian: Mengetahui efek varian genotip *CYP7A1* rs3808607 dan *TCF7L2* rs7903146 serta intervensi kukis FiberCreme-IMO^{TM} terhadap koefisien aterogenik pada subjek hiperlipidemia.
Metode: Enam puluh subjek hiperlipidemia (n=60) dibagi berdasarkan jenis kukis menjadi kelompok perlakuan dengan kukis FiberCreme-IMO^{TM} (n=30) dan kukis santan sebagai kontrol (n=30). Kukis diberikan $\pm$80 gram per-hari selama empat minggu. Kadar kolesterol total dan HDL diukur sebelum dan sesudah intervensi. Variasi genotip dianalisis menggunakan metode PCR-RFLP.
Hasil Penelitian: Kukis FiberCreme-IMO^{TM} signifikan menurunkan koefisien aterogenik (-0,30 $\pm$ 0,00; p = 0,005). Koefisien aterogenik signifikan lebih rendah pada alel G-rs3808607 gen *CYP7A1* (-0,26 $\pm$ 0,11; p = 0,018) dan variasi CC-rs7903146 gen *TCF7L2* (-0,31 $\pm$ 0,17; p = 0,009). Variasi gen *TCF7L2* signifikan berinteraksi dengan kukis (p=0,026), dimana genotip CC-rs7903146 berhubungan dengan koefisien aterogenik yang lebih rendah. Analisis multivariat menunjukkan penurunnya koefisien aterogenik akibat variasi gen tidak berbeda secara signifikan dengan pemberian kukis yang berbeda.
Kesimpulan: Konsumsi kukis FiberCreme-IMO^{TM} signifikan menurunkan koefisien aterogenik subjek hiperlipidemia. Individu pembawa alel G-rs3808607 gen *CYP7A1* dan genotip CC-rs7903146 *TCF7L2* mengalami penurunan koefisien aterogenik yang signifikan. Genotip CC-rs7903146 *TCF7L2* signifikan berhubungan dengan nilai koefisien aterogenik yang lebih rendah akibat konsumsi kukis.

Kata kunci: FiberCreme-IMO^{TM}, Koefisien Aterogenik, Pati Resisten.

ABSTRACT

Background: *FiberCreme™ is a commercial creamer with IMO found to have a hypolipidemic effect. FiberCreme™, predicted as an antihyperlipidemic agent, can potentially reduce the risk of atherosclerosis. The atherogenic coefficient is a parameter to predict the abnormality of atherosclerosis. Genetic variations CYP7A1 rs3808607 and TCF7L2 rs7903146 may influence the response of total cholesterol and HDL as parameters of the atherogenic coefficient on the consumption of FiberCreme-IMO™ as cookies.*
Objectives: *Determine the effect of the CYP7A1 rs3808607 and TCF7L2 rs7903146 genotype variants and the FiberCreme-IMO™ cookies on atherogenic coefficients in hyperlipidemic subjects.*
Methods: *Sixty subjects with hyperlipidemia (n=60) were assigned as groups by type of cookies. The treatment group consumed cookies made from FiberCreme-IMO™ (n=30) and control group made from had cookies containing coconut milk powder (n=30). Cookies are given ±80 grams per day for four weeks. Total cholesterol and HDL levels were measured before and after the intervention. Genotypic variations will analyze using the PCR-RFLP method.*
Results: *FiberCreme-IMO™ cookies significantly reduced the atherogenic coefficient (-0.30 + 0.00; p = 0.005). The atherogenic coefficient significantly lower on the allele G-rs3808607 CYP7A1 (-0.26 + 0.20; p = 0.038) and the CC-rs7903146 TCF7L2 gene variation (-0.31 + 0.17; p = 0.009). TCF7L2 gene varians has significant association with cookies and rs7903146-CC genotype related with lower atherogenic coefficient. Multivariate analysis shows insignificant changes in the atherogenic coefficient of genetic variation was not differ by cookies consumption.*
Conclusion: *Consumption of FiberCreme-IMO™ cookies significantly reduces the atherogenic coefficient of hyperlipidemic subjects. Individuals carrying the GG-rs3808607 CYP7A1 gene and CC-rs7903146 TCF7L2 gene show a significant decrease of atherogenic coefficient. TCF7L2 rs7903146-CC genotype significantly related with lower atherogenic coefficient.*

Keywords: *FiberCreme-IMO, Atherogenic Coefficient, Resistant Starch*