

## Relationship between plasma lipid profile and the severity of diabetic retinopathy in type 2 diabetes patients

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### Abstrak

Penelitian ini bertujuan untuk mengetahui hubungan antara profil lipid darah dengan derajat retinopati diabetik penderita DM tipe-2. Penelitian potong-lintang pada 52 pasien retinopati diabetika dilaksanakan di Poliklinik Mata, Rumah Sakit Cipto Mangunkusumo, Jakarta. Data yang dikumpulkan meliputi data demografi, gaya hidup, lama menderita DM, pemeriksaan fisik dan antropometrik, asupan lemak, asam lemak dan kolesterol data kadar gula darah puasa, A1C, kolesterol total, kolesterol-LDL, kolesterol-HDL and trigliserida, dan pemeriksaan fundus.

Analisis statistik yang digunakan adalah uji chi-square untuk mengetahui hubungan antara profil lipid darah dengan derajat retinopati diabetik. Subyek terdiri dari 20 orang laki-laki dan 32 orang perempuan dengan rerata usia  $53,8 \pm 5,2$  tahun. Sebanyak 53,8% telah didiagnosis DM selama >10 tahun, dengan rerata IMT adalah  $24,1 \pm 3,3$  kg/m<sup>2</sup> dan 38,5% diklasifikasikan sebagai obes I dan II. Rerata kadar gula darah puasa  $157,5 \pm 71,8$  mg/dL, dan A1C  $9,1 \pm 2,4$  %.

Sebanyak 40,4% subyek mempunyai kadar kolesterol total darah tinggi, 34,6% kadar kolesterol-LDL darah sangat tinggi, dan 65,4% dengan kolesterol-HDL dan trigliserida darah normal. Derajat keparahan retinopati diabetika ditunjukkan dengan adanya 61,6% subyek dengan retinopati diabetika non-proliferasi berat (NPDR) and retinopati diabetika proliferasi (PDR). Kesimpulannya, belum dapat dibuktikan adanya hubungan yang bermakna antara profil lipid dengan derajat retinopati diabetika.

.....This study aimed to determine the relationship between plasma lipid profile and the severity of diabetic retinopathy in type 2 diabetes patients. A cross sectional study was done in Ophthalmologic Clinic, Cipto Mangunkusumo General Hospital, Jakarta for 52 diabetic retinopathy (DR) patients. Data collected were demographic, life style, duration of diabetes, physical and antropometric examinations, fat, fatty acid and cholesterol intake, fasting plasma glucose, A1C, total-, LDL-, HDL-cholesterol and triglyceride level, and fundus examination.

Statistical analysis was done using chi-square test to see the associations between plasma lipid profile and DR in type 2 diabetes patients. Subjects comprised of 20 males and 32 females diabetes patients with mean age of  $53.8 \pm 5.2$  years. As much as 53.8% had been diagnosed as DM for >10 years. The mean value of BMI was  $24.1 \pm 3.3$  kg/m<sup>2</sup> and 38.5% were classified as obese I and II. The mean value of fasting plasma glucose was  $157.5 \pm 71.8$  mg/dL, and A1C was  $9.1 \pm 2.4$  %.

For lipid profile, 40.4% had high total cholesterol level (>240 mg/dL), 34.6% had high and very high LDL-cholesterol level (160 mg/dL), and 65.4% had normal HDL-cholesterol (40-60 mg/dL) and triglyceride level (<150 mg/dL). For the severity of retinopathy, 61.6% had severe non-proliferative diabetic retinopathy (NPDR) and proliferative diabetic retinopathy (PDR). In conclusion, there were no significant associations between plasma lipid profile and the severity of diabetic retinopathy.