

Low serum high density lipoprotein level is associated with proliferative retinopathy in patients with diabetes mellitus

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- **Introduction:** Diabetes mellitus (DM) is a common chronic metabolic disease associated with serious complications. Diabetic retinopathy (DR) is one of the most common microvascular complications of DM. The aim of this study was to investigate the association between diabetic retinopathy and dyslipidemia
- **Methods:** A total of 1363 subjects were included in this retrospective study. The participants were divided into three groups, including a study group of 352 patients with diabetes and retinopathy, a control group of 553 patients with diabetes without retinopathy and a control group of 457 healthy subjects. The study group included 202 and 150 patients with non-proliferative (NPDR) and proliferative diabetic retinopathy (PDR), respectively. Groups were compared according to the demographic properties, high density lipoprotein (HDL), triglyceride, low density lipoprotein (LDL), HbA1c and serum fasting glucose levels. MedCalc 15.8 (MedCalc Belgium) was used for the statistical analysis.
- **Results:** Groups were comparable in terms of age and sex ($p > 0,05$ for each one). Not surprisingly, serum fasting glucose and HbA1c levels were high in patients with diabetes ($p < 0.05$, respectively). Serum HDL levels of the patients with diabetic retinopathy were lower than those in diabetic patients without retinopathy (39.3 10.4 vs. 42.4 10.4 $p < 0,001$). Patients with PDR had lower HDL levels than patients with NPDR (37.6 9.4 vs. 40.5 11.0, $p = 0,011$). There was an association between low HDL levels and PDR (OR:2.1 CI %95 1.4-3.1 $p = 0,003$).
- **Conclusion:** In this study we have found low serum levels of HDL in patients with PDR. Low serum HDL level is associated with atherosclerosis and other vascular problems. Diabetic patients with low serum HDL level may be more predisposed for retinopathy. Diabetic patients should be evaluated for dyslipidemia to delay the development of vascular complications.
- **Keywords:** HDL, retinopathy, diabetes mellitus