ABSTRACT

EFFECT OF ATORVASTATIN TREATMENT ON VASCULAR ATEROGENIC FACTORS (LIPID PROFILES AND VCAM-1) IN PATIENT DIABETES WITH DYSLIPIDEMIA

Background: Diabetes mellitus (DM) is a metabolic disorder disease characterized by hyperglycemia and associated with a high risk of vascular disease. Lipid profiles in diabetes patients are usually characterized by hypertiglyceridemia, HDL decline, and high LDL. DM also increased adhesion molecule, resulting in endothelial damage. Atorvastatin is a class of lipid-lowering HMG CoA reductase inhibitor, in which HMG CoA is a precursor of mevalonate formation which is a synthesis of cholesterol. Other effects include decreasing oxidative stress and vascular inflammation with increased stability of atherosclerotic lesions. This study aims to determine the effect of atorvastatin treatment with a dose of 20 mg in the basic lipid profile (total cholesterol, triglycerides, and LDL-C) and adhesion molecule VCAM-1 in DM patients with dyslipidemia.
Objective: To analyze effectiveness of atorvastatin 20 mg on lipid profiles and adhesion molecule VCAM-1 in patient with diabetes dyslipidemia
Methods: An observational prospective cohort study was conducted from November 2016 to March 2017. Patients who fulfilled the inclusion criteria were taken twice for their lipid profiles and vcam-1 measurements (before initiation of study and after 6 weeks treatment of atorvastatin 20 mg).
Result : There were 13 patients who met the inclusion criteria. The results of 13 patients showed that after 6 weeks of atorvastatin therapy, there was a 28% decrease in total cholesterol (t_0 = 223.77 ± 49.69, t_1 = 160.92 ± 24.69), 39% LDL decrease (t_0 = 152.59 ± 44.25, t_1 = 93 ± 21.44), a decrease in TG 38.6% (t_0 = 200.85 ± 101.53, t_1 = 123.30 ± 62.77) and a statistically significant decrease in VCAM-1 7.47% (t_0 = 729.59 ± 208.06, t_1 = 675.06 ± 182.88). The results of the correlation test between total cholesterol and VCAM-1 (p = 0.185, r = 0.268), LDL and VCAM-1 (p = 0.127, r = 0.307), TG and VCAM-1 (p = 0.198, r = 0.261) showed no correlation.
Conclusion : Based on the results of the study, it can be concluded that atorvastatin therapy can provide improvements in atherogenic factors such as decreased lipid profile and VCAM-1, and there was no correlation between lipid profile and VCAM-1 in type 2 DM patients with dyslipidemia.

Keywords : Diabetes mellitus, Atorvastatin, dyslipidemia, Adhesion molecules, VCAM-1.