

The Effects of High Dose Pravastatin and Low Dose Pravastatin and Ezetimibe Combination Therapy on Lipid, Glucose Metabolism and Inflammation

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Objective. Coronary artery disease (CAD) is presently the major cause of mortality and morbidity. Anti-hyperlipidemic treatment is one of the main treatment steps in the management of CAD. Statins are the cornerstones in this treatment. Ezetimibe can be reliably used, when statins prove ineffective in treatment, or to reduce their side effects. In the present study we examined the effects of high-dose pravastatin (40 mg) and low-dose pravastatin (10 mg) + ezetimibe (10 mg) combination therapy on lipid and glucose mechanism, as well as inflammation.

Methods. This study registered 100 cases. Of the cases, 50 [57.1 ± 11.1 years (24 (48%) females and 26 (52%) males)] were administered 40 mg/day pravastatin (group 1) and 50 [53.2 ± 12.2 years (27 (54%) females and 23 (46%) males)] were administered 10 mg pravastatin + 10 mg ezetimibe (group 2).

Results. In group 1, total cholesterol fell from 231.1 ± 83.5 mg/dl to 211.3 ± 37.2 mg/dl ($p=0.03$), triglyceride from 243.5 ± 96.8 mg/dl to 190.9 ± 55.2 mg/dl ($p=0.003$), and LDL cholesterol from 165.7 ± 29.7 mg/dl to 133.4 ± 26.6 mg/dl ($p=0.02$). In group 2, total cholesterol dropped from 250.9 ± 51.8 mg/dl to 187.9 ± 34.9 mg/dl ($p=0.001$), triglyceride from 270.3 ± 158.9 mg/dl to 154.6 ± 60.7 mg/dl ($p=0.001$), and LDL cholesterol from 158.1 ± 47.5 mg/dl to 116.9 ± 26.4 mg/dl ($p=0.001$). Insulin resistance decreased from 4.05 ± 2.31 to 3.16 ± 1.90 ($p=0.07$) in group 1 and from 2.96 ± 1.50 to 2.05 ± 0.55 ($p=0.009$) in group 2. High sensitive C-reactive protein fell from 6.69 ± 6.11 mg/l to 3.02 ± 1.70 mg/l ($p=0.01$) in group 1 and from 6.36 ± 2.06 mg/l to 2.68 ± 1.69 mg/l ($p=0.001$) in group 2.

Conclusion. Both therapy regimes are effective. However, we found that low-dose pravastatin and ezetimibe combination therapy is more effective than high-dose pravastatin therapy on lipid metabolism, glucose metabolism and inflammation.

KEY WORDS: ezetimibe; pravastatin; hyperlipidemia; inflammation; insulin resistance.

INTRODUCTION

Coronary heart diseases (CAD) are among important causes of mortality and morbidity, despite the recent developments [1]. Hypercholesterolemia, inflammation and insulin resistance have a significant part in the development and progression of CAD. The forego-

ing aim of primary and secondary prevention is restoration of elevated LDL-cholesterol (LDL-C) [2]. It is known that the highest benefit is reaped from aggressive LDL-C treatment in coronary artery disease. However, high-dose statin monotherapy either proves ineffective or does not bring about the targeted lipid level due to side effects [3].

Lipid-lowering therapy is a cornerstone in preventing coronary artery disease, particularly in high-risk patients and coronary artery disease. The 3-hydroxy-3-methylglutaryl coenzyme A (HMG-CoA) reductase inhibitors (statins) are the most potent and commonly prescribed drugs for the treatment of hypercholesterol-

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