Role of Ezetimibe in Combination with Statins(Simvastatin and Atorvastatin) in Controlling Dyslipidemia

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Abstract

Cardiovascular risk is independently increased by plasma lipids abnormalities (low- density and high density lipoprotein -cholesterol and triglycerides). Most patients have more than one lipid abnormality. Combination therapy with lipid-modifying agents could offer an important therapeutic option for improving the overall lipid profile. Combinations have demonstrated to provide additive efficacy and significant reductions in coronary events . This study was designed to evaluate the effect of ezetimibe, when used in combination with other hypolipidaemic agents (statins) on lipid profile as well as on liver function ,renal function, oxidative stress, and platelets function when given to dyslipidaemic patients . Forty four patients (24 males and 20 females) with age ranged between 40-70 years (54 ±14.6) with dyslipidaemia on statins therapy for at least 6 month were involved in this clinical trials. They were randomized into two groups treated with either a combination of 20 mg/day simvastatin or a combination of 20mg/day atorvastatin and

10mg/day of ezetimibe.The study also included 22 apparently healthy subjects with age ranged (40-70years) and sex(11males and 11 females) matching that of the patients group. Serum lipid profile (total cholesterol -TC, triglycerides -TG, low density lipoprotein-cholesterol –LDL-C, very low density lipoprotein-cholesterol-VLDL-C, and high density lipoprotein-cholesterol –HDL-C), oxidative stress marker (Malondialdehyde-MDA), liver functions indices (Alanin aminotransferase -ALT,Aspartate aminotransferase- AST, total bilirubin), renal function parameters (urea, creatinine, and microalbuminuria) and platelets function test (bleeding time)were evaluated before and after 4 and 6 weeks of starting ezetimibe treatment . Treatment with ezetimibe plus simvastatin or atrovostatin resulted in significant lowering in TC, TG, LDL-C levels with elevation in HDL-C also the LDL/HDL ratio lowered significantly (by 38.16%). This effect was associated with significant changes in liver function , and oxidative stress without changes in platelets function nor in renal function. The results presented in this study indicated that ezetimibe can be used in clinical practice for the treatment of dyslipidaemia, when combined with other hypolipidaemic agents like simvastatin and atorvastatin to improve the therapeutic profile with ameliorating some of their adverse effects.

Keywords : Ezetimibe , Statins , Dyslipidemia