

Variation of carotid intima: Media thickness in hypercholesterolemia patients on atorvastatin and rosuvastatin therapy

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Aim: This study compares changes in lipid profile and carotid intima-media thickness and their use as surrogate biomarkers, after treatment with atorvastatin and rosuvastatin given to hypercholesterolemia patients.

Methodology: Lipid profile was done after overnight fasting in patients with history of hypercholesterolemia or family history of premature coronary artery diseases. B-mode ultrasonography was done to measure mean carotid intima-media thickness on a Toshiba (M# SSA-580A/E2) ultrasound scanner with linear probe. Both treatment groups, one on atorvastatin (20 mg) and other on rosuvastatin (10 mg) were followed-up for two years.

Results: Total of forty two patients of heterozygous familial hypercholesterolemia were followed -up for two years. Total cholesterol reduction was (45%) and LDL-cholesterol (48%) in patients on rosuvastatin 10 mg/day, as compared to total cholesterol reduction (36%) and LDL-cholesterol (37%) in patients on atorvastatin 20 mg/day (**p < 0.001). The mean CIMT regression in both treatment groups was significant (0.11 mm) in rosuvastatin treatment group and (0.08 mm) in atorvastatin treatment group (*p < 0.02).

Conclusion: This study has shown better efficacy of rosuvastatin as compared to atorvastatin in reduction of LDLcholesterol and carotid – intima media thickness.

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