ROLE OF LIPOPROTEIN(A) APOLIPOPROTEIN B100 AND ANGIOTENSIN CONVERTING ENZYME GENE POLYMORPHISM IN CORONARY ARTERY DISEASE IN INDIANS

Prevention

Poster Contributions
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Purpose: - Incidence of modifiable risk factors do not account for high risk of premature CAD in Asian Indians. We studied the role of Lipoprotein [Lp (a)], Apolipoprotein B100 (Apo B100) levels and Angiotensin converting enzyme (ACE) gene polymorphism in patients having CAD.

Methods: - A total of 1259 subjects (691 patients of angiographically proven CAD and 568 controls with either normal coronary angiogram or negative stress test) were evaluated for Lp(a) and ApoB100 levels, with ACE deletion/insertion (DD,ID and II) genotypes being ascertained by polymerase chain reaction besides conventional risk factors in the cohort.

Results: - Mean age (Standard deviation SD) was 48.27 (12.07) and 49.38(12.27) years in patients with CAD and controls respectively. Prevalence of diabetes (21.8% vs. 26.3%, p=NS), hypertension (35.9% vs. 34.5%, p=NS), positive family history of premature CAD (15.7% vs. 19.1%, p=NS) and total cholesterol levels [180.4 (46.1] vs. 178.1 (48.1] mg/dl, p=NS] were similar whereas smoking (45.7% vs. 37%, p<0.01) and ApoB100 [>114 mg/dl] were more prevalent in patients as compared to controls (83% vs. 35.6% and 86% vs.43.1% respectively, p<0.01). ACE-DD genotype was more common in patients with CAD as compared to controls (64.1% vs.23.7%, p<0.01) whereas II and ID were more common in control group (43.5% vs.16.5% and 32% vs.19.4% respectively, p<0.01). On multivariate analysis, elevated Lp(a) (OR=3.89, 95% C.I.=2.42-6.27, p<0.01), Apo B100 (OR=7.56, 95% C.I.=5.09-11.24, p<0.01), triglyceride (OR=3.17, 95% C.I=2.17-4.63, p<0.01), smoking (OR=1.78, 95% C.I=1.02-2.14, p<0.01) and ACE DD genotype were significant predictors of CAD.

Conclusions: - Elevated Lp(a), ApoB100 levels and ACE-DD genotypes were significantly associated with CAD. ApoB100 levels helps to further predict CAD in patients with normal LDL levels. ACE-DD genotype were significantly more common in Indian CAD patients as compared to control group. ACE DD genotype have the same potential of imparting genetically predetermined risk for having CAD in future life and its identification may help one to detect person at risk at an early age.