Conferenceseries.com 3rd International Conference on BIOPHARMACEUTICS AND BIOLOGIC DRUGS & 5th INTERNATIONAL PHARMACY CONFERENCE August 31-September 01, 2017 Philadelphia, USA

Role of angiotensinogen gene polymorphism in blood pressure lowering response to angiotensin converting enzyme inhibitors

Kamna Srivastava University of Delhi, India

Background: Hypertension is one of the major risk factors for cardiovascular diseases. It has been suggested that genetic backgrounds, which have an association with essential hypertension, may also determine the responsiveness to ACE inhibitor. We determined the association of angiotensinogen gene polymorphism with essential hypertension and the relationship between polymorphism in the angiotensinogen (M235T) gene and blood pressure response to ACE inhibitor (enalapril) in patients with essential hypertension. The present study is also about a particular genetic polymorphism (A1166C), gene expression and protein expression of the angiotensin II type I receptor (AT1R) and its association with essential hypertension in a Northern Indian population.

Methods: 250 patients with essential hypertension and 250 normal healthy controls from Delhi and surrounding areas were recruited for the investigation. Blood pressure was recorded before and after 6 weeks of treatment with ACE inhibitors, Enalapril. Genotyping were carried out by PCR and RFLP technique and expression analysis at mRNA levels by real-time PCR.

Results and Conclusions: Statistically significant association of T allele was observed with essential hypertension [x2=14.67, p=0.00013, Odds ratio=1.76 (1.3-2.32) at 95% CI]. The decrease in systolic blood pressure and diastolic blood pressure after six weeks of treatment of the patients carrying TT genotype were greater than the groups carrying MT and MM genotypes. The angiotensinogen (M235T) gene polymorphism is significantly associated with essential hypertension. Patients carrying TT genotype had higher blood pressure lowering response when treated with ACE inhibitor, Enalapril than those carrying MM and MT genotypes suggesting that the T allele may be a possible genetic marker for essential hypertension. Our findings also suggest that C allele of A1166C polymorphism in the angiotensin II type 1 receptor gene is associated with essential hypertension

Biography

Kamna Srivastava has completed her B Pharm, M Pharm and PhD from Department of Pharmaceutics, Institute of Technology, Banaras Hindu University, India. She held her Post-doctoral positions in National Institute of Immunology, All India Institute of Medical Sciences, New Delhi. Presently, she is working as an Assistant Professor in Molecular Cardiology Lab in Dr. B R Ambedkar Centre for Biomedical Research, Delhi University. Her on-going project is focused on the identifying the potential biomarkers for cardiovascular diseases. She has more than 30 research publications to her credit and recipient of grants from DST, CSIR and ICMR India.

kamna_srivastava@hotmail.com

Notes: