

Relationship Salt Sensitivity and c825t Polymorphism of gnb3 Gene in Patients with Essential Hypertension

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Abstract : It is known that an unbalanced intake of salt (NaCl), lifestyle and genetic predisposition to pathology is a key component of the risk and the development of essential hypertension (EH). Purpose: To study the relationship between salt-sensitivity and blood pressure (BP) on systolic (SBP) and diastolic (DBP) blood pressure, depending on the C825T polymorphism of GNB3 in individuals of Uzbek nationality with EH. Method: studied 148 healthy and 148 patients with EH with I-II degree (WHO/ISH, 2003) with disease duration $6,5 \pm 1,3$ years. Investigation of the gene GNB3 was produced by PCR-RFLP method. Determination of salt-sensitivity was performed by the method of R. Henkin. Results: For a comparative analysis of BP, the groups with carriage of CT and TT genotypes were combined. The analysis showed that carriers of CC genotype and low salt-sensitivity were determined by higher levels of SBP compared with carriers of CT and TT genotypes, and low salt-sensitivity of SBP: $166,2 \pm 4,3$ against $158,2 \pm 9,1$ mm Hg ($p=0,000$). A similar analysis on the values of DBP also showed significantly higher values of blood pressure in carriers of CC genotype DBP: $105,8 \pm 10,6$ vs. $100,5 \pm 7,2$ mm Hg, respectively ($p=0,001$). The average values of SBP and DBP in groups with carriers of CC genotype at medium or high salt-sensitivity in comparison with carriers of CT or TT genotype did not differ statistically SBP: $165,0 \pm 0,1$ vs. $160,0 \pm 8,6$ mm Hg ($p=0,275$) and DBP: $100,1 \pm 0,1$ vs. $101,6 \pm 7,6$ mm Hg ($p=0,687$), respectively. Conclusion: It is revealed that in patients with EH CC genotype of the gene GNB3 given salt-sensitivity has a negative effect on blood pressure profile. Since patients with EH with the CC genotype of GNB3 gene with low-salt taste sensitivity is determined by a higher level of blood pressure, both on SBP and DBP.

Keywords : salt sensitivity, essential hypertension EH, blood pressure BP, genetic predisposition

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