

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР

МАТЕРІАЛИ ІХ МІЖВУЗІВСЬКОЇ
НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ
КАФЕДРИ ІНОЗЕМНИХ МОВ

“TO MAKE THE WORLD SMARTER AND SAFER”

(Суми, 26 березня 2015 року)
The ninth scientific practical student`s, postgraduate`s and teacher`s
LSNC conference

BCLII POLYMORPHISM OF GLUCOCORTICOID RECEPTOR GENE IN PATIENTS WITH BRONCHIAL ASTHMA AND OBESITY

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Certain investigations showed that genetic factors of bronchial asthma (BA) and obesity overlap each other, this indicates that they have common genetic predisposition. Thus, BA and obesity are associated with the genes, which encode β -adrenergic receptor, insulin-like growth factor, IL-1 α , leukotriene A4 hydroxylase, glucocorticoid receptor (GR), uncoupling protein, etc.

The objective of this investigation was to analyze possible association between BclII polymorphism of GR gene and obesity among patients with BA.

Materials and methods. 188 patients with BA have been examined. The control group consisted of 95 apparently healthy adult individuals. We measured body mass, height, body mass index (BMI). The determination of allelic polymorphism in the second exon of the GR gene, BclI (C647G) - rs41423247, was performed by polymerase chain reaction (by Fleury I. et al.) with modifications.

Results. Among patients with BA, normal body mass (NBM) was found in 50.5% of individuals, overweight - 15.4%, obesity- 34%. In the control group, 76.8% of the investigated had NBM, 20% had overweight and 3.2% had obesity. It has been demonstrated that obesity occurs more often among BA patients, than in the control group. The patients with BA had higher BMI parameter, than the individuals in the control group ($27.2 \pm 0.44 \text{ kg/m}^2$ VS. $23.5 \pm 0.29 \text{ kg/m}^2$; $P < 0.001$). The obtained data showed that BMI values didn't significantly differ in carriers with different genotypes for BclII polymorphism in the control group ($P = 0.9126$). However, dependence between BclII polymorphism and BMI parameters was found among patients with BA: G/G genotype carriers had higher BMI ($31.3 \pm 0.74 \text{ kg/m}^2$).

Genotypes distribution for BclII polymorphism among patients with BA showed a statistically significant difference between patients with different BMI unlike the control group. G/G homozygotes had higher BMI, than those in the control group or with other genotypes. BMI didn't much differ between C/C and C/G genotypes carriers.