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

МАТЕРІАЛИ

XIV ВСЕУКРАЇНСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ КОНФЕРЕНЦІЇ СТУДЕНТІВ, АСПІРАНТІВ ТА ВИКЛАДАЧІВ ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ КАФЕДРИ ІНОЗЕМНИХ МОВ

«TO MAKE THE WORLD SMARTER AND SAFER»

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Materials and methods. The study enrolled 181 Ukrainians with body mass index (BMI) value less, than 30 kg/m^2: 94 patients with diagnosed T2DM (mean BMI [± SD] 26.18 ± 2.16 kg/m^2) and 87 control subjects (mean BMI 25.25 ± 2.61 kg/m^2) without any carbohydrate metabolism disorders. Whole venous blood was used for DNA extraction. The polymerase chain reaction-restriction fragments length polymorphism analysis (PCR-RFLP) was performed for genotyping. All statistical calculations were done using SPSS 22.0 (Chicago, IL, USA). The two-tailed P-value less than 0.05 was considered as statistically significant.

Results. The following distribution of genotypes in comparison groups was found: TT – 60.6%, TC – 29.8%, CC – 9.6% for T2DM patients and TT – 62.1%, TC – 31%, CC – 6.9% for control subjects. There were no statistically significant differences in genotypes frequencies distribution according to the χ^2-test (χ^2 = 0.429; P = 0.807). The link between *BGLAP* rs1800247 SNP and T2DM development was explored under dominant, recessive, over-dominant and additive regression models. The lack of association for each model of inheritance neither before nor after the adjustment to age, sex, smoking habit and arterial hypertension presence ($P_c > 0.05$ and $P_a > 0.05$, respectively) was found. Moreover, BMI was not an effect modifier ($P_a^{int} > 0.05$).

Conclusion. There was no association between *BGLAP* rs1800247-polymorphic locus and T2DM emergence among non-obese Ukrainians.

POWER THERAPY FOR THE BRAIN

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People suffering from diseases such as epilepsy, Parkinson’s or Alzheimer's, are waiting for investigation of US Department of Defense. It helps through deep stimulation of the

brain with the help of electrical impulses to significantly improve the functioning of the functional networks of the brain and improve memory up to 15%.

The use of electricity in medicine has improved since the first cardiac pacemaker appeared. Implanted electrodes, which are visible in this x-ray, can deliver electric pulses known as deep brain stimulation (DBS). Such "brain pacemakers" have effectively treated Parkinson's disease and were being tested in Alzheimer's patients to improve memory, focus, and judgment. A Cleveland Clinic investigation of DBS to stimulate stroke recovery has shown hopeful results.

Researchers using an electroencephalograph, which allows for monitoring brain activity, as well as using the so-called transcranial stimulation with alternating current (tACS), affected the brain areas of young and old people associated with working memory (working memory is information that is temporarily stored for use in solving urgent problems).

The investigation involved 42 young people aged 20-29 years and 42 elderly people aged 60-76 years. It turned out that older brain-stimulated older people thought more slowly and less accurately than younger ones.

Neuroscientists explain this by the fact that young people have a higher level of interaction and synchronization of certain rhythms of brain waves, suggesting that the targeted effect of these types of rhythms on the brain of older people can help improve its functions.

Getting active brain stimulation, older people coped with tests to test working memory at almost the level of younger people. Moreover, this effect lasted at least 50 minutes after stimulation.

However, it is still too early to talk about the use of this discovery in medicine, according to scientists, several additional basic research should be carried out.