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Possibilities of correction of eating behavior in patients with non-alcoholic fatty liver disease taking into account the peculiarities of gene polymorphisms

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Objective: To increase the efficiency of treatment of patients with NAFLD by individual correction of eating behavior (EB) based on the nutritional characteristics of the patients.

Materials and methods: Fifty patients (46 men and 44 women) with NAFLD were examined. The control group consisted of 30 practically healthy patients reciprocating by sex and age. All patients studied the characteristics of EB (DEBQ questionnaire), anthropometric indicators, lipid and carbohydrate metabolism, the degree of liver steatosis, the area of visceral adipose tissue (CT scan), nutrigenetic features (definition of 5 polymorphisms: Pro12Ala of the PPARG2 gene (rs1801282), Gln27Glu of the ADRB2 gene (rs1042714), Arg16Gly of the ADRB2 gene (rs1042713), Trp64Arg of the ADRB3 gene (rs4994) and Thr54Ala of the FABP2 gene (rs1799883), associated with the risk of metabolic disorders. Patients were prescribed individual nutritional correction for 12 months, taking into account the identified polymorphisms associated with EB violation, namely: carriers of the Pro12Ala genotype of the polymorphism of the PPARG2 gene were prescribed a therapeutic diet with moderate fat intake of 1.1-1.2 g / kg / day and carbohydrate restriction of 2.5-3 g / kg / day, Pro12Pro genotype carriers - diet with restriction of fats up to 1.0 g / kg / day and moderate consumption of carbohydrates up to 3.5-4 g / kg / day.

Results: After 12 months after individual correction, significant positive dynamics of the main anthropometric and laboratory-instrumental indicators were observed: a decrease in body mass index and waist circumference by a factor of 1.2 ($p < 0.05$), a decrease in the level of total cholesterol and low-density lipoproteins of 1.5 and 1.3 times, respectively ($p < 0.001$), the level of triglycerides, 2.1 times ($p < 0.001$) and the increase in high-density lipoproteins by 1.4 times ($p < 0.001$), a decrease in HOMA-IR in 2.2 times ($p < 0.001$), liver samples (reduction of alanine aminotransferase 2.4 times and aspartate aminotransferase 2.5 times ($p < 0.05$)), CT scan - signs of steatosis (35% increase in liver x-ray density ($p < 0.001$)) and indicators of visceral obesity (a decrease of 2.1 times the area of visceral adipose tissue ($p < 0.001$)). In addition, during the control questionnaire, normalization of EB was observed in 86% of patients and a decrease in the degree of eating disorders in 14% of patients compared with baseline indicators ($p < 0.001$).

Conclusion: Thus, the appointment of individual correction of EB taking into account nutritional features for at least 12 months contributes to a significant improvement in metabolic parameters associated with the risk of development and progression of NAFLD, the formation and stabilization of proper eating habits, which improves the effectiveness of treatment of patients with NAFLD.

Biography

Senior researcher of the Department study of digestive diseases and their comorbidity with non-communicable diseases) Gi. L.T. Malaya Therapy National Institute of The National Academy Of Medical Sciences Of Ukraine. Publications. Author and co-author 157 scientific works in Ukrainian and foreign scientific issues (scientific articles, including DAC, SCOPUS, patents of Ukraine, certificate on scientific work, theses and reports). Scientific Organizations' Membership Chair Ukrainian Gastroenterological Association Young Talent Group since 2016 Friends of YTG UEG since 2017.