



THE SIGNIFICANCE OF POLYMORPHIC VARIANTS A66G OF THE MTRR GENE, A2756G OF THE MTR GENE, C677T AND A1298T OF THE MTHFR GENE IN PATIENTS WITH PSORIASIS

Klebleyeva Guzal Davlyatovna

PhD at the Department of Skin and Venereal Diseases,
Samarkand State Medical University

Utayev Akbar Jurakulovich

Chief physician of the Samarkand regional branch of the
Republican Specialized Dermatovenereological and
Cosmetology Scientific and Practical Medical Center

Abdullaev Davlat Mukumovich

Department of Skin and Venereal Diseases, Samarkand State
Medical University

Abstract: In world literature wide presented results research associations genes one-carbon metabolism And their function onally significant allelic options With multitude pathologies. MTHFR (m e - tylenetetrahydrofolate reductase) plays key role V metabolism folic acids. The most studied SNPs of the MTHFR gene (OMIM 607093) are o- nonucleotide polymorphisms C677T and A1298C. Homozygotes for polymorphic allele T V positions 677 gene MTHFR celebrated thermolability enzyme And decrease his activities to 70% from average values, allele WITH V positions 1298 V homozygous condition reduces activity MTHFR to 60%, What leads To disruption of folate metabolism and methylation processes in the cell, hyper - homocysteinemia . The material for the study was samples of peripheral blood from 56 patients with various forms of psoriasis, registered at the Regional Clinical Dermatovenereology and Venereal Diseases Center - logical dispensary №1 (Kharkov). For polymorphism C677T the reaction amplification was carried out using GenPak MTHFR PCRtest kits (Isogen , RF). Genotyping of polymorphisms A1298C, A2756G and A66G was conducted by method PCR-RFLP. Carriage of polymorphic alleles according to analyzed one-carbon metabolism genes are predictors for implementation in pathological phenotype « psoriatic genotype".

Key words: Psoriasis, psoriatic arthritis, genes

Introduction: Psoriasis (ancient Greek . ψωρί ασις, from ancient Greek. ψώρα — itching) — chronic non-infectious autoimmune [1] disease , dermatosis , affecting mainly the skin [2] [3] [4] . Psoriasis usually manifests itself in the formation of red, excessively dry, raised spots above the surface of the skin - the so-called papules , which merge with each other, forming plaques. These papules are by their nature areas of chronic inflammation and excessive proliferation lymphocytes , macrophages and keratinocytes of the skin, as well as excessive angiogenesis (formation of new small capillaries). The incidence does not depend on gender [5] . Psoriasis affects 2-4% of the total population [6] [7] [8] . In Russia, this figure also varies depending on the territory - from 0.72 to 11.8% [9] . The disease can begin at any age, but most often plaques appear between the ages of 15 and 25. Every third patient indicates the first symptoms before the age of 20 [10] . The highest prevalence of psoriasis is observed in Western Europe and Scandinavia [8] [11] . The disease is much less common among representatives of the Negroid and Mongoloid races [8] . Psoriasis can occur in newborns and infants [11] .

Target research. IN world literature wide presented results research associations genes one-carbon metabolism And their function onally significant allelic options With multitude pathologies. MTHFR (m e - tylenetetrahydrofolate reductase) plays key role V metabolism folic acids. The most studied SNPs of the MTHFR gene (OMIM 607093) are o- nonucleotide polymorphisms C677T and A1298C. In homozygotes for polymorphic allele T V positions 677 gene MTHFR celebrated thermolability enzyme And decrease his activities to 70% from average values, allele WITH V positions 1298 V homozygous condition reduces activity MTHFR to 60%, What leads To disruption of folate metabolism and methylation processes in the cell, hyper - homocysteinemia . Gene MTRR (OMIM encodes cytoplasmic enzyme methionine synthase reductase (MSR), uch a- existing V biochemical reactions, related With transfer methyl group - py , And providing the

opposite transformation homocysteine V methionine. Gene MTR (OMIM 156570) encodes the cytoplasmic enzyme methionine synthase, which catalyzes remethylation homocysteine to form methionine, using a quality cofactor cobalamin, predecessor vitamin B12. Single nucleotide polymorphisms of the indicated genes, affecting activity enzymes, contribute to development multifactorial pathologies. In connections With this seems to be relevant analyze the significance of polymorphic variants A66G of the MTRR gene, A2756G of the MTR gene, C677T and A1298T of the MTHFR gene in patients with psoriasis, and also to identify various geneotypes. How predictors therapeutic effect For development personalized - bathroom therapy.

Materials and methods. The material for the study was samples of peripheral blood from 56 patients with various forms of psoriasis, registered at the Regional Clinical Dermatovenereology and Venereal Diseases Center - logical dispensary №1 (Kharkov). For polymorphism C677T the reaction amplification was carried out using GenPak MTHFR PCRtest kits (Isogen, RF). Genotyping of polymorphisms A1298C, A2756G and A66G was conducted by method PCR-RFLP. For forecasting probabilities development psoriasis at sick dependencies from genotype, By genes calculated attitude odds (OR) and 95% confidence interval (CI). The difference in allele frequencies, genotypes, and the equality of distribution series were assessed using the criterion χ^2 on significance levels of 0.05, 0.001.

Results and discussion. Analysis of distribution series of the studied genotypes for the polymorphic variant C677T of the MTHFR gene in patients with psoriasis and the healthy population showed a statistically significant difference ($df = 2$, $\chi^2_{st}=5.99$, $\chi^2_f=38.79$, $p<0.001$) between them. Among patients, the proportion of heterozygotes 1.5 times higher than in the control group, 50.6% versus 33.7% ($p < 0.05$). Analysis of genotype distribution series for two single nucleotide sequences polymorphism - MTHFR A1298C and C677T showed an excess of actually observed heterozygotes compared to what was theoretically expected. This is

probably due to the fact that, with one sides, allele WITH provides recovery active forms foley eva acids, playing key role V processes methylation DNA, both- that ensure genome stability, while the T allele , on the other hand, leads to excessive accumulation V plasma blood homocysteine , How predecessor cysteine. For heterozygotes C677T, the probability of developing psoriasis increases by 2 times (OR=2.00, 95% CI 1.13–3.46, $p < 0.05$) than the population average. For A66G heterozygotes for the MTRR gene , the probability of developing psoriasis increases - is almost 2.2 times (OR=2.16, 95% CI 1.26–3.71, $p < 0.05$) higher than the average in population, for homo- and heterozygotes A66G+G66G – 3 times (OR=3.12, 95% CI 1.41–6.92, $p < 0.05$), for homo- and heterozygotes A2756A+A2756G for the MTR gene – in 8 times (OR=7.77, 95% CI 2.07–1.03, $p < 0.05$).

Conclusions. Carriage of polymorphic alleles according to the analyzed one-carbon metabolism genes are predictors for implementation in pathological phenotype « psoriatic genotype".

Literature:

амраева Г., Абдуллаев Х., Нуруллаева Д. Оптимизация седации при малоинвазивных хирургических манипуляциях у детей с онкогематологическими заболеваниями //in Library. – 2024. – Т. 2. – №. 2. – С.

tayev A. J. et al. FRESH PERSPECTIVE ON THE PROGRESSION OF SEXUALLY TRANSMITTED INFECTIONS //GOLDEN BRAIN. – 2024. – Т. 2. – №. 5. – С. 140-145.

uziyev K. T. et al. ENZYME IMMUNOASSAY FOR SERORESISTANT SYPHILIS VARIANTS //GOLDEN BRAIN. – 2024. – Т. 2. – №. 5. – С. 158-164.

tayev A. J. et al. TO EVALUATE THE PATHOGENESIS OF ATOPIC DERMATITIS: THE ROLE OF GENETIC FACTORS //GOLDEN BRAIN. – 2024. – Т. 2. – №. 5. – С. 101-106.

tayev A. J. et al. EXPERIENTIAL PERSPECTIVE ON THE APPLICATION OF

TACROLIMUS IN ATOPIC DERMATITIS TREATMENT //GOLDEN BRAIN. –

2024. – T. 2. – №. 5. – C. 151-157.

uziyev K. T. et al. COMBINATIVE TREATING METHODS FOR
PAPILLOMAVIRUS INFECTION //GOLDEN BRAIN. – 2024. – T. 2. – №. 5. – C.

tayev A. J. et al. UTILIZATION OF SEVORAN IN MANAGING LICHEN
PLANUS: AN EXPERIENTIAL PERSPECTIVE //GOLDEN BRAIN. – 2024. – T.
2. – №. 5. – C. 146-150.

uziyev K. T. et al. PROMOTING A WELL-ROUNDED LIFESTYLE FOR
SCHOOL KIDS AND COLLEGE STUDENTS //GOLDEN BRAIN. – 2024. – T. 2.
– №. 5. – C. 134-139.

uziyev K. T. et al. WHEN PATIENTS RECEIVE A FORMAL DIAGNOSIS OF
HERPES, THE PRESENCE OF ANTIBODIES TO HIV INFECTION IS
OBSERVED //GOLDEN BRAIN. – 2024. – T. 2. – №. 5. – C. 128-133.

uziyev K. T. et al. INVESTIGATION OF THE MICROELEMENT CONTENT OF
PATIENTS' HAIR WITH DIFFUSE ALOPECIA //GOLDEN BRAIN. – 2024. – T.
2. – №. 5. – C. 116-121.

uziyev K. T. et al. EXAMINING GENETIC POLYMORPHISM IN INDIVIDUALS
WITH VIRAL IMMUNITY //GOLDEN BRAIN. – 2024. – T. 2. – №. 5. – C. 107-