

Insulin Resistance and Pharmacotherapy Effectiveness in Patients with Long -Term Diabetes Mellitus Type 2

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Abstract

Introduction: With the development of the availability of genetic research, a multiplex approach to determining the pharmacotherapy tactics has become possible, taking into account the individual characteristics of the patient. Nevertheless, the modern tactics of pharmacotherapy "to failure" has been adopted, which over time leads to the intensification of therapy. A personalized approach to the pharmacotherapy of type 2 diabetes mellitus by determining the genotype of endothelial synthase of nitric oxide will predict the effectiveness of metformin monotherapy in the debut of the disease and reduce the risk of decompensation and complications with long-term type 2 diabetes mellitus. The aim of the study was to monitor the effectiveness of metformin pharmacotherapy for long-term type 2 DM, depending on the patient's genotype.

Index terms— type 2 diabetes mellitus, monotherapy, methformin, eNOS3 gene polymorphism, insulin resistance. of genetic research, a multiplex approach to determining the pharmacotherapy tactics has become possible, taking into account the individual characteristics of the patient. Nevertheless, the modern tactics of pharmacotherapy "to failure" has been adopted, which over time leads to the intensification of therapy. A personalized approach to the pharmacotherapy of type 2 diabetes mellitus by determining the genotype of endothelial synthase of nitric oxide will predict the effectiveness of metformin monotherapy in the debut of the disease and reduce the risk of decompensation and complications with long-term type 2 diabetes mellitus.

The aim of the study was to monitor the effectiveness of metformin pharmacotherapy for long-term type 2 DM, depending on the patient's genotype. Materials and methods: A single-center, randomized, prospective study of 200 patients referred for planned hospitalization. The single nucleotide polymorphism of the gene eNOS3, the level of glycated hemoglobin. Homeostatic model 2 (HOMA 2) was applied to evaluate insulin resistance in patients. In consistency with the results, patients were divided into three groups: with the ??, TC and TT genotype.

Results and discussion: Patients of the CC genotype group achieved and kept glycated hemoglobin below the target level in 80% of cases, when metformin was used at a dose of 1700 mg per day. No one of the patients, who representatives of the TC and TT genotypes reached the target values of glycated hemoglobin. Thus, the use of metformin as monotherapy to compensate for carbohydrate metabolism is not enough for TC and TT genotypes, and combination hypoglycemic pharmacotherapy, including insulin therapy, is required.

Conclusion: Identification of the presence of a particular eNOS3 gene allele provides the possibility of earlier prescribing appropriate drugs in an individual dose to reduce insulin resistance and likely limit the progression of diabetes mellitus, as well as increase the degree of compensation for carbohydrate metabolism.

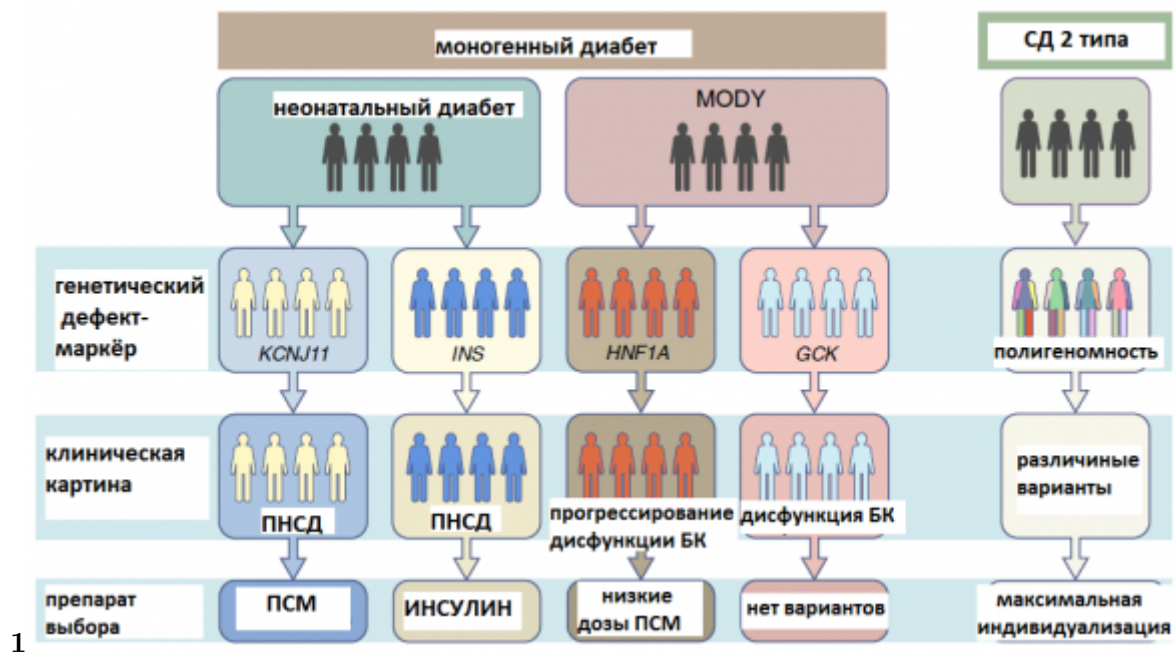


Figure 1: ??????? 1 :

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Abstract-Introduction: With the development of the availability

Figure 4: ?????????? ?????????? ?????????????????? ?????????? ??????, ? ????? ?????????? ?????????? ?????????? ?????????? ??????

1 Keywords

¹B © 2020 Global Journals Insulin Resistance and Pharmacotherapy Effectiveness in Patients with Long -Term Diabetes Mellitus Type 2

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16 : type 2 diabetes mellitus, monotherapy, methformin, eNOS3 gene polymor- 17
 Yeaphism, insulin resistance. I. ??????? ?????????, ??? ??????? ?????? (?D?)” 18
 2020?????? ?????? ?????????????? ?????????? ??????? ??????? ?????????????? 19
 GloBaI?????? ???????, ?????? 415 ????. ??????? ?? ???? ???? ????????? ?D?” 20
 JouE- ?????, ? ?? ????????????????? ?????????? ? 2040 ?. ??? ?????? ?????????? 21
 nal 642 ????. ??? ?????, ?? ?????? ??????? 320,5 ????. ?????????? ? ?D?” 2
 of ???? ?????????? ? ?????? ?????????????????? ?????????? ?? 20 ?? 64 ??? [1]. 22
 Med????????????? ?????????? ?????????? ?????? ? ????????? ?D?”. ?????????????????? 23
 i- ?????????????? ?????????? ?????????????? ? ?????????? ?????????????????? ?D?” ? 24
 cal ?? ??? ?????????????? ?????? ??????????. ?????????? ?????????????? ?????????????????? 25
 Re-?D?” ?????????: ?????????????????? ??????, ???? ?????????????????? ??????????????, 26
 search????????????? ?????????????????? ??? ?????????????????? ?????????????????? ? ?????????????? 27
 Vol-????????????? ?????????? ?????????????? ?D?” ??? ?????????? ?????????????? ?????????? 28
 ume????????????? ?????????????????? ???? ?????????????? ?????????????????? ?????? ? 29
 XX????????????? ?????????? ?????????????????? ? ?????? ?????????????????? ?????????????? 30
 Is- ?????????? (????????? 1) [2]. ? ?????????? ?? ?????????????? ?????? ?????????? (MODY, 31
 sue ?????????????? ??????? ? ?????????????? ???????), ?D?” 2 ?????? ?????????????????? 32
 VIII????????????? ?????????? ? ?????????????? ??????, ?????????? ?????????????? ?? ??????? 33
 Ver-????????? ? ?????????? ?????????? ??????????????, ?? ? ?????? ?? ??????????????????, 34
 sion????????? «????????? ??????????» [3]. ?? ??????? ??????? ?????????? ?????????????? 35
 I ?????????????? ?????????????????? ? ?????????????? ?????????????????? ?????????????? 36
 (? ?????????????? ?? ?????????? ??????, ?????????? ? ?????????? ?D?” 2 ?????? 37
 D (PPARG, DIPOR2, ADAMTS9, IRS1, GCKR, KLF14, ADIPOQ), ?????????? 38
 D ? ?????????? ?????????????????? ?????????????? (SUR1, GLPR-1), ? ?????? ?????????? ?? 39
 D ?????????????????? ?????????? (MATE ? ???). ??????? ?????????? ?????????????????? 40
 D ?????????? ??????, ?????????????? ? ?????????????????? ?????????????????? ?????????? 41
) ?????????????????? ?????????? ??????????, ?????????? ???? ?????????????????? ? ??????, 42
 Year????????????? ?? ?????????? ?????????????? ?????????? [4]. ?? ?????? ?????????????????? 43
 2020????? ?????????????????? ?D?” 2 ?????? ?????????????? ?????????????????? ?????????????? 44
 18 ?????????? ?????????? ?????????????? ?????????????? ?? ?????????????????? ?????????? 45
 Vol-? ?????????? ?D?” ? ??? ?????????????? ?????????? ? ?????????????????? ??????????, 46
 ume?? ?????????? ?????????????????? ??????????????????, ? ?????????????, ?????????? 47
 XX????????????????? ?????????? ???? ? ?????????? ?????????????????? ?????????? ?????????? 48
 Is- ?????? ?? ?? 1,0 %, ?? ?????????? ?????? ?????????? ? ?????????????? (????????????????? 49
 sue ?????????????? ?????????? ?????????? ??? ?????????????? ?????????????????? ?????????? 50
 VIII????????????? ?????????? ?????? ?????????? ?bA1c ? 0,5 % ?? 6 ?????????? ?????????????? 51
 Ver-[11]. ?????? ? ?????????? ?????????? ?????? ?????????? ?????????? ?????????????????? 52
 sion????????? ?????????????? ???, ??? ?????????????? ?????????? ?????????????? ?????????????????? 53
 I ?????????????? ??? ?????????????????? ?????????? ?????????????? ??????????????. ? ?????? 54
 D ? ?????, ?????? ?????????????????? ?????? ?????????????? ?????????????????? ?????????????????? 55
 D ?????????????? ?????????????? ?????????? ?D?” 2 ?????? ? ?????????????? ?? ?????????? 56
 D ??????????. II. ?????????? ? ?????? D?”????? ??????????????: ?????????????????? 57
 D ?????????????????? ?????????????????????? ??????????????????. ?????????????? ?????????????? 58
) ?? ?????????? ?????????????????? ?????????????????? ? ?????????? ?????????????? ? 59
 (?????????????? ?? ?????????? ?????????? ??? ?????????????? ? ?????????? ?????????? 60
 Med-????????????????? ??????????). ?????????????????? ?????????????? ??? (???) eNOS3 61
 i- (rs 2070744) ?????????????? ?????????? ?????????????????? ?????????? ?????????? ? ?????????? 62
 cal ?????????? ??? ?????????????????? ?????????????? ?????????? (??? «?????», ??????). 63
 Re-D?”????????????????? ?????????????? ?????????????? ?? ?????????????? ?????????????????? Bio-Rad 64
 search ?????????????????? ?????????? (????????). ?????????? ?-????????, ?????????????????? ??? 65
 GloBaI????? ?????????????? HOMA 2-IR, HOMA 2-B ? HOMA 2-IS ?????????????????? 66
 JouE-?????, ?????????? ? ?????????? ?????????????????? ?????????????????? ??????-????? 67
 nal «Mercodia C-peptide ELISA specific» 4 ??? ?? ???? ?? ?????????????????? 68
 of ?????????????? ?? ? ?? ?? ?????? ?????????? ?????????? ?????????????????? 2. 69
 Hattersle ?., Patel ?.. Precision diabetes: learning from monogenic diabetes. 70

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