

**ONE-TIME SCIENTIFIC COUNCIL BASED ON THE SCIENTIFIC  
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OF DOCTOR OF SCIENCE AT TASHKENT MEDICAL ACADEMY**  

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**TASHKENT MEDICAL ACADEMY**

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**PATHOLOGY OF THE HEMOSTASIS SYSTEM IN PATIENTS WITH  
CORONAVIRUS INFECTION, CLINICAL LABORATORY DIAGNOS-  
TICS AND IMPROVEMENT OF CORRECTION METHODS**

**14.00.29- Hematology and transfusiology  
14.00.25 – Clinic–laboratory va functional diagnostics**

**DISSERTATION ABSTRACT OF THE DOCTOR OF MEDICAL  
SCIENCES (DSc)**

**Tashkent-2023**

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The dissertation has been prepared at Tashkent medical academy

The abstract of the dissertation is posted in two (Uzbek, Russian, English (resume)) languages on the website of the Scientific Council and on the website of «Ziyonet» information and educational portal.

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Dissertation is available in Information and Resource center of Tashkent medical academy (registered № \_\_\_\_\_). Address: 100109, Tashkent, Farobi street, 2. Tashkent medical academy, 2-training building «B» wing, 1-floor, 7-cabinet. Tel / Fax: (+99871) 150-78-14).

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## INTRODUCTION (abstract of DSc thesis)

**The purpose of research:** to study changes of coagulation, vascular–thrombocytic hemostasis and genetic markers of hypercoagulability in patients with coronavirus infection, to improve the ways of correction.

**The object of research:** 400 patients with mild, moderately and severe degree of coronavirus infection, treated in Zangiota infectious Diseases Hospital No. 2 in 2021.

**The subject of the study** was venous blood samples.

**The scientific novelty** of research is following:

it was found that thrombosis, needle thrombosis during venipuncture, thrombophlebitis, paresthesia and other clinical signs characteristic of thrombosis are observed more as the severity of the disease of coronavirus infection increases, are more pronounced and 45% of cases of mortality are associated with thrombotic complications, including pulmonary embolism in 28% of cases, deep vein thrombosis in 25% of cases, myocardial infarction in 22% of cases, acute cerebral circulatory disorders in 15% of cases and other thrombotic complications in 10% of cases;

it has been proved that platelet activity has not significantly changed in patients with mild coronavirus infection, while with moderate and severe coronavirus infection, platelet aggregation function increases by 39-54%, and adhesion function increases by 60-98%;

it was shown that the indicators of coagulation hemostasis in patients with mild coronavirus infection did not significantly change, but a shortening of the active partial thromboplastin time by 26-40%, prothrombin time by 21-30%, thrombin time by 22.3-45.2%, an increase in fibrinogen by 37.4-58.6%, D-dimer by 1.6-2.2 times;

it is proved that treatment with a combination of acetylsalicylic acid at a dose of 75 mg and clopidogrel at a dose of 75 mg with an increase in platelet aggregation activity, unlike standard therapy, leads to the most effective correction of hemostasiological changes and normalization of adhesion and aggregation properties of platelets within the first 5 days;

it was established for the first time that the protective-protective or inductive role of alleles and genotypes of polymorphism of the genes MTHFR A1298C (rs 1801-131), MTHFR C677T (rs 1801-133), MTRR a66g (rs1801-394) and MTR a2756g (rs 18050-87) were not confirmed in mild coronavirus infection. In moderate to severe coronavirus infection, the unfavorable genotype of polymorphism of the genes MTHFR 677 S>T (rs1801133), MTHFR 1p36.22 1298 A>S (rs1801131) and MTR 5P15.31 66 a> G (rs1801394) was significantly higher, which proved the presence of the inducing effect of thrombophilia of these genes;

for the first time, it was found that in patients with coronavirus infection, in the absence of a genetic predisposition to thrombophilia, the level of homocysteine was within the normal range, while when a heterozygous genotype of thrombophilia genes was detected, the level of homocysteine was 3.0-4.4 times

higher, and when a homozygous mutation was detected, 5.6 times higher, resulting in platelet adhesion it increased 2.3-2.6 times, and aggregation - 1.9 times.- 2.5 times;

it is proved for the first time that violations of platelet adhesion and aggregation depend on the severity of the disease and genetic predisposition to thrombosis. When prescribing a combination of 75 mg of acetylsalicylic acid and 75 mg of clopidogrel for coronavirus infection of moderate and severe degree and a heterozygous genotype of thrombophilia genes, antiplatelet therapy was effective after 2-3 months, and in the presence of a homozygous mutation, the effectiveness was manifested after 3-4 months.

**The implementation of the research results:**

The results of comprehensive study of features of hemostasis system disorder in coronavirus infection, changes in hemostasis in patients diagnosed with an unpleasant genotype of thrombophilia genes and scientific results obtained to increase the effectiveness of their treatment were applied to the clinical practice of Zangiota infectious Diseases Hospital No.1 and Kashkadarya regional infectious diseases hospital (act of the implementation № 8H-3/5/3 from 03.10.2022).

**The structure and volume of the thesis.** The dissertation consists of introduction, six chapters, conclusion and a list of used literature. The volume of the thesis is 183 pages.

**ЭЪЛОН ҚИЛИНГАН ИШЛАР РЎЙХАТИ**  
**СПИСОК ОПУБЛИКОВАННЫХ РАБОТ**  
**LIST OF PUBLISHED WORKS**

**I бўлим (I часть; I part)**

1. Inoyatova F.Kh., Kurbonova Z.Ch., Babadzhanova Sh.A. Relationship between MTHFR gene rs1801133 and rs1801131 polymorphisms with disease severity of COVID-19 and homocystein levels in uzbek patients // Journal of Pharmaceutical Negative Results, 2022, Vol.13, Special Issue 1, P.1879-1988. DOI: 10.47750/pnr.2022.13.S01.225 (SCOPUS).

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