

## МИОКАРД ИНФАРКТИ БИЛАН ХАСТАЛАНГАН БЕМОРЛАРДА ЭНДОТЕЛИАЛ NO – СИНТАЗА ГЕНИНИНГ – T786C ПОЛИМОРФИЗМИ ХУСУСИЯТЛАРИНИ БАҲОЛАШ

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**Тадқиқод мақсади.** Миокард инфаркти билан хасталанган беморларда эндотелиал NO – синтаза генининг – T786C полиморфизми хусусиятларини баҳолаш.

**Материал и усуллар.** МИ билан хасталанган 210 бемор касаллик 10 кунгача текширувдан ўтган бўлиб уларнинг ўртача ёши 51,6±8,6 ёшни ташкил этди. Молекуляр-генетик текширув эндотелиал NO синтаза (eNOS, NOS3) генининг –T–786C промотори полиморфизми ўзбек миллатига мансуб МИли 117 нафар беморда ва 104 соғлом донорларда ишлаб чиқарувчилар қўлланмасига мувофиқ CG–1–96 «Corbett Research» (Австралия) ва 2720 «Applied Biosystems» (АҚШ) дастурланган термоциклерларда полимераз занжир реакцияси усулида ўтказилди. Молекуляр-генетик тадқиқодларнинг барча босқичлари Республика ихтисослаштирилган гематология илмий-амалий тиббиёт марказининг молекуляр тиббиёт ва хужайра технологиялари бўлимида ўтказилди

**Тадқиқод натижалари.** Натижалар таҳлили МИли беморларда NO-синтаза гени T786C полиморфизмининг T/T генотипининг учраши назорат гуруҳига нисбатан ишончли камайишини кўрсатди (52,9% беморлар гуруҳида ва 68,3% назорат гуруҳида,  $\chi^2=5.4$ ;  $p<0,02$ ). NO-синтаза гени T786C полиморфизми МИнинг клиник кечишига боғлиқ ҳолда ўрганишда бирламчи МИ беморларда T аллель учраши 78%ни ташкил этса, такрорий МИли беморларда 67,3%ни ташкил этди. C аллель такрорий МИли беморларда 1,5 марта кўпроқ учради ва 32,7% ҳолатда ва бирламчи МИда 22%да аниқланди. Бирламчи МИли беморларда T/C генотип учраши 41,8%ни ва такрорий МИда 57,7%ни ташкил этди. eNOS T786C (rs2070744) полиморфизмида аллель ва генотиплар учраш хусусият-

ларининг таҳлили нохуш генотипларнинг такрорий МИли беморларда 1.9 дан 3.6 мартагача кўпроқ учрашини аниқлади. Юқоридаги параметрларнинг МИ нинг жойлашганига боғлиқ равишда таҳлили шуни кўрсатдики: МИ олдинги девори зарарланишида ХВР бўйича аллеллар тақсимланиши частотаси: T=0.75; C=0.25 ни ташкил этди. МИ орқа девор зарарланиши билан кечганда ХВР бўйича аллеллар тақсимланиши частотаси: T=0.76; C=0.24ни ва генотиплар тақсимланиши кутилаётган учраши беморлар гуруҳида: T/T=0.54; T/C=0.44; C/C=0.02ни ташкил этди. NO – синтаза T786C гени полиморфизмининг учрашини МИ кечши билан боғлиқ ҳолда таҳлил қилинганда T/C генотипи беморларда МИ нинг эрта асоратлари – ритм бузилишлари, ЎЮЕ, тромбоземболиялар T/T генотипи беморларга нисбатан ишончли кўпроқ учраши аниқланди. МИли беморларда эндотелиал NO – синтаза T786C гени нохуш аллель ва генотиплари назорат гуруҳига нисбатан ишончли кўпроқ учради. Бу беморларда эндотелиал NO – синтаза T786C гени полиморфизмини ўрганиш T/C генотипи миокард инфарктининг олди деворида жойлашиши билан кучли корреляцион боғлиқлик мавжудлигини кўрсатди ( $r=0,65$ ). Генетик модель асосида МИ беморларда эндотелиал NO – синтаза T786C гени полиморфизмининг касаллик прогнозидаги ахамиятини баҳолаш МИ нохуш прогностик омили сифатида C аллель ва T/C генотип эканлиги аниқланди

**Хулоса.** МИ билан хасталанган беморларда эндотелиал NO – синтаза T786C гени полиморфизмининг касаллик прогнозидаги ахамиятини баҳолаш МИ нохуш прогностик омили сифатида C аллель ва T/C генотип эканлиги аниқланди.

## CHANGES OF THE ENDOTHELIAL FUNCTIONAL PROPERTIES IN ISCHEMIC HEART DISEASE ON THE BACKGROUND OF TYPE 2 DIABETES MELLITUS AFTER COVID–19

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**Aim of the study** was to evaluate endothelial function in patients with coronary artery disease (CAD) and type 2 diabetes mellitus (T2DM) who underwent Covid–19.

**Material and Methods.** 65 patients with CAD and type 2 diabetes mellitus after coronavirus infection

(Group I) and 65 patients with coronary artery disease and type 2 diabetes mellitus without any history of Covid–19 (Group II) were enrolled in this study. Group I patients aged 45–73 years, mean age  $62.4 \pm 12.9$  years; male=48% and Group II patients aged 41–76 years, mean age  $63.2 \pm 14.0$  years; male=46%. Endothelial

function was assessed by flow-mediated vasodilation of brachial artery (FMD). All statistical analysis were performed by SPSS 26.0 software (IBM, USA).

**Results.** Flow-mediated vasodilation of brachial artery was significantly decreased in patients with coronary artery disease and type 2 diabetes mellitus after Covid-19 than those patients without Covid-19 ( $P < 0.05$ ). There were a correlation between Covid-19 and reduced FMD in Group I ( $r = 0.7$ , CI 95%,  $P < 0.05$ ). When we assessed systolic function of the left ventricle, there were a positive correlation between reduced FMD and low ejection fraction ( $r = 0.6$ , CI 95%,  $P < 0.05$ ), however this correlation were more pronounced in Group I. Multivariate analysis revealed that reduced flow-mediated vasodilation of brachial

artery was independent predictor of poor systolic function of patients with CAD and type 2 diabetes mellitus especially in those after Covid-19 (odds ratio [OR] 1.52,  $P = .026$ ). When we separately analyzed between men and women there were not any statistical significant changes between male and female.

**Conclusion.** Patients with coronary artery disease and type 2 diabetes mellitus after Covid-19 had impaired flow-mediated vasodilation of brachial artery. Even though, there were positive correlation between FMD and reduced ejection fraction, patients with CAD and T2DM after Covid-19 had strong correlation. In CAD with T2DM who have underwent Covid-19, FMD independently associated with poor left ventricular systolic function.

## CHANGES OF THE BIOCHEMICAL INDEXES AFTER COVID-19 IN PATIENTS WITH ISCHEMIC HEART DISEASE ON THE BACKGROUND OF TYPE 2 DIABETES MELLITUS

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**Purpose** of the study was to evaluate biochemical parameters in patients with CAD and T2DM after Covid-19.

**Material and Methods.** 65 patients with CAD and type 2 diabetes mellitus after coronavirus infection (Group I) within six months and 65 patients with CAD and type 2 diabetes mellitus without any history of Covid-19 (Group II) were enrolled in this study. Group I patients aged 45–73 years, mean age  $62.4 \pm 12.9$  years; male=48% and Group II patients aged 41–76 years, mean age  $63.2 \pm 14.0$  years; male=46%. Anthropometric, laboratory and instrumental data were assessed and analyzed. All statistical analysis were performed by SPSS 26.0 software (IBM, USA).

**Results.** There were significant changes between groups in terms of blood sugar level ( $11.2 \pm 4.3$  mmol/L vs.  $9.1 \pm 3.9$  mmol/L,  $P < 0.05$ ), glycated hemoglobin ( $8.4 \pm 3.4$  % vs.  $7.2 \pm 2.9$  %,  $P < 0.05$ ) and creatinine level ( $121.2 \pm 23.5$  mmol/L vs.  $108.5 \pm 20.5$  mmol/L,  $P < 0.05$ ) in two groups but not area level between

groups ( $P > 0.05$ ). Regarding the liver enzymes, alanine aminotransferase (ALT) and aspartate aminotransferase (AST) were higher in Group I than Group II ( $41.0 \pm 16.4$  vs.  $26.4 \pm 8.0$  Unit/L,  $P < 0.05$  for ALT and  $43.8 \pm 14.5$  unit/L vs.  $23.8 \pm 6.5$  unit/L,  $P < 0.05$  for AST). When we analyzed lipid spectrum, there were not any statistically significant changes between groups in terms of total cholesterol, triglycerides, high-density lipoprotein cholesterol, low-density lipoprotein cholesterol and very low-density lipoprotein cholesterol ( $P > 0.05$ ). When we separately analyzed by gender, there were not observed any significant changes between male and female patients in both groups ( $P > 0.05$ ).

**Conclusion.** Patients with coronary artery disease and type 2 diabetes mellitus who underwent Covid-19 had impaired biochemical indexes. One should consider correcting all biochemical properties in rehabilitation period in patients with CAD and T2DM after Covid-19.

## TO STUDY THE ROLE AND FUNCTION OF LEUKOCYTES IN PATIENTS WITH ACUTE MYOCARDIAL INFARCTION

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**Purpose of the study.** To identify clinical and functional indicators and inflammatory blood markers that affect the prognosis in patients with myocardial infarction.

**Materials and research methods.** We have selected patients with in-depth white blood cell counts

and conducted clinical trials on them, including blood tests and myocardial infarction, to achieve our goal.

**Research results.** The most important and independent factors for predicting sudden cardiac death in post-MI patients are end-diastolic size, ejection fraction, left ventricular akinesia zones, and