

БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ

ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ
JOURNAL OF BIOMEDICINE AND PRACTICE

ДАВРИЙЛИГИ: 2016-2026

ЖИЛД 11
СОҢ 1

2026



ЧОП
ЭТИЛГАН САНА:
06.02.2026

БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ

11 ЖИЛД, 1 СОН

ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ

ТОМ 11, НОМЕР 1

JOURNAL OF BIOMEDICINE AND PRACTICE

VOLUME 11, ISSUE 1



Бош мухаррир:

Ризаев Жасур Алимжанович
тиббиёт фанлари доктори, профессор,
Самарқанд давлат тиббиёт университети ректори
ORCID ID: 0000-0001-5468-9403

Бош мухаррир ўринбосари:

Зиядуллаев Шухрат Худайбердиевич
тиббиёт фанлари доктори, Ўзбекистон Республикаси
Фанлар академиясининг Иммунология ва инсон
геномикаси институти директор ўринбосари,
ORCID ID: 0000-0002-9309-3933

Масъул котиб:

Самиева Гулноза Утқуровна
тиббиёт фанлари доктори, профессор,
Самарқанд давлат тиббиёт университети
ORCID ID: 0000-0002-6142-7054

Нашр учун масъул:

Шаханова Шахноза Шавкатовна
PhD, Самарқанд давлат тиббиёт университети,
онкология кафедраси доценти
ORCID ID: 0000-0003-0888-9150

ТАХРИРИЯТ КЕНГАШИ:

Арипова Тамара Уктамовна

Иммунология ва инсон геномикаси институти директори –
тиббиёт фанлари доктори, профессор, Ўзбекистон
Республикаси Фанлар академияси академиги

Jin Young Choi

Сеул миллий университети Стоматология мактаби оғиз ва
юз-жағ жарроҳлиги департаменти профессори, Жанубий
Кореянинг юз-жағ ва эстетик жарроҳлик ассоциацияси
президенти

Абдуллаева Наргиза Нурмаматовна

тиббиёт фанлари доктори, профессор, Самарқанд
давлат тиббиёт университети проректори, 1-клиникаси бош
врачи. **ORCID ID:** 0000-0002-7529-4248

Орипов Фирдавс Суръатович

тиббиёт фанлари доктори, профессор, Самарқанд
давлат тиббиёт университети Гистология, цитология ва
эмбриология кафедраси мудири
ORCID ID: 0000-0002-0615-0144

Мавлянов Фарход Шавкатович

тиббиёт фандар доктори, Самарқанд давлат тиббиёт
университети болалар жарроҳлиги кафедраси доценти
ORCID ID: 0000-0003-2650-4445

Магзумова Наргиза Махкамовна

тиббиёт фанлари доктори, Тошкент давлат тиббиёт
университети Оилавий тиббиётда акушерлик ва гинекология
кафедраси профессори **ORCID ID:** 0000-0002-9313-4918

Очилов Улугбек Усмонович

DSc, доцент, СамДТУ Дипломдан кейинги таълим
факултети Психиатрия курси мудири. СамДТУ Илмий
кенгаши котиби. <https://orcid.org/0000-0003-3553-8727>

Шавази Наргиз Нуралiena

DSc. Доцент, СамДМУ 3-сон акушерлик ва гинекология
кафедраси мудири <https://orcid.org/0000-0001-7859-9955>

Юлдашев Равшан Захидович

Тожикистон Давлат тиббиёт университети Онкология
ва нур таъхиси кафедраси мудири, Тиббиёт фанлари
доктори, Профессор. Душанбе, Тожикистон.
<https://orcid.org/0009-0002-7165-5373>

Саидов Сандамир Абборович

тиббиёт фанлар доктори,
Тошкент фармацевтика институти
ORCID ID: 0000-0002-6616-5428

Бабалданов Ойбек Абдуҷаббарович

тиббиёт фанлари доктори, Тошкент давлат тиббиёт
университети, Тери-таносил болалар тери-таносил
касаликлари ва ОИТС кафедраси доценти
ORCID ID: 0000-0002-3022-916X

Теребаев Билим Алдамуратович

тиббиёт фанлари доктори, доцент, Тошкент
педиатрия тиббиёт институти Факультет болалар
хирургия кафедраси. **ORCID ID:** 0000-0002-5409-4327

Юлдашев Ботир Ахматович

тиббиёт фанлари доктори,
Самарқанд давлат тиббиёт университети
№2-сон Педиатрия, неонатология ва болалар
касаликлари пропедевтикаси кафедраси доценти.
ORCID ID: 0000-0003-2442-1523

Ибрагимова Малика Худайбергеновна

тиббиёт фанлари доктори, профессор
Тошкент давлат тиббиёт университети
ORCID ID: 0000-0002-9235-1742

Рахимов Нодир Махамматкулович

тиббиёт фанлари доктори, Самарқанд давлат
тиббиёт университети, онкология кафедраси профессори
ORCID ID: 0000-0001-5272-5503

Даминов Феруз Асадуллаевич

Самарқанд давлат тиббиёт университети,
2-сон Даволаш факультети декани,
тиббиёт фанлари доктори, доцент.
Самарқанд, Ўзбекистон.

Миржурев Элбек Миршавкатович

тиббиёт фанлари доктори, профессор
ЎзССВ Тиббий ходимларни касбий малакасини
ривожлантириши марказининг Нейрореабилитация
кафедраси мудири, Тошкент, Ўзбекистон

Тагаев Шерқабул Бойқабдулович

тиббиёт фанлари доктори, хирургия кафедраси
доценти Тошкент давлат тиббиёт университети.
ORCID: 0009-0004-7661-9253.

Саҳифаловчи: Хуршид Мирзахмедов

Контакт редакций журналлов. www.tadqiqot.uz

ООО Tadqiqot город Ташкент,
улица Амира Темура пр.1, дом-2.

Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz

Тел: (+998-94) 404-0000

Editorial staff of the journals of www.tadqiqot.uz

Tadqiqot LLC The city of Tashkent,
Amir Temur Street pr.1, House 2.

Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz

Phone: (+998-94) 404-0000

Главный редактор:

Ризаев Жасур Алимджанович
доктор медицинских наук, профессор, Ректор Самаркандского государственного медицинского университета, **ORCID ID:** 0000-0001-5468-9403

Заместитель главного редактора:

Зиядуллаев Шухрат Худайбердиевич
доктор медицинских наук, Заместитель директора Института иммунологии и геномики человека Академии наук Республики Узбекистан, **ORCID ID:** 0000-0002-9309-3933

Ответственный секретарь:

Самиева Гульноза Уткуровна
доктор медицинских наук, профессор Самаркандского государственного медицинского университета. **ORCID ID:** 0000-0002-6142-7054

Ответственный за публикацию:

Шаханова Шахноза Шавкатовна
PhD, доцент кафедры онкологии Самаркандского государственного медицинского университета **ORCID ID:** 0000-0003-0888-9150

РЕДАКЦИОННЫЙ КОЛЛЕГИЯ:

Арипова Тамара Уктамовна

директор Института иммунологии и геномики человека доктор медицинских наук, профессор, академик АН РУз

Jin Young Choi

профессор департамента оральной и челюстно-лицевой хирургии школы стоматологии Стоматологического госпиталя Сеульского национального университета, Президент Корейского общества челюстно-лицевой и эстетической хирургии

Абдуллаева Наргиза Нурмаматовна

доктор медицинских наук, профессор, проректор Самаркандского государственного медицинского университета, **ORCID ID:** 0000-0002-7529-4248

Орипов Фирдавс Суръатович

доктор медицинских наук, профессор, заведующий кафедрой Гистологии, цитологии и эмбриологии Самаркандского государственного медицинского университета **ORCID ID:** 0000-0002-0615-0144

Мавлянов Фарход Шавкатович

доктор медицинских наук, доцент кафедры Детской хирургии Самаркандского государственного медицинского университета, **ORCID ID:** 0000-0003-2650-4445

Магзумова Наргиза Махкамовна

Доктор медицинских наук, профессор кафедры акушерства и гинекологии Семейной медицины Ташкентский государственный медицинский университет **ORCID ID:** 0000-0002-9313-4918

Очилов Улугбек Усманович

DSc, доцент, заведующий курсом психиатрии факультета постдипломного образования СамГМУ. Секретарь Ученого совета СамГМУ. <https://orcid.org/0000-0003-3553-8727>

Шавази Наргиз Нуралиевна

DSc, доцент, заведующая кафедрой акушерства и гинекологии N 3 СамГМУ. <https://orcid.org/0000-0001-7859-9955>

Юлдашев Рашид Захидович

Заведующий кафедрой Онкологии и лучевой диагностики Таджикского медицинского университета, д.м.н., профессор Душанбе, Таджикистан <https://orcid.org/0009-0002-7165-5373>

Сандов Сандамир Аброрович

доктор медицинских наук, Ташкентский фармацевтический институт **ORCID ID:** 0000-0002-6616-5428

Бабаджанов Ойбек Абдужаббарович

доктор медицинских наук, Ташкентский государственный медицинский университет, доцент кафедры Дерматовенерология, детская дерматовенерология и СПИД, **ORCID ID:** 0000-0002-3022-916X

Теребаев Билим Алдамуратович

доктор медицинских наук, доцент кафедры Факультетской детской хирургии Ташкентского педиатрического медицинского института. **ORCID ID:** 0000-0002-5409-4327

Юлдашев Ботир Ахматович

доктор медицинских наук, доцент кафедры Педиатрии, неонатологии и переподготовки детских болезней №2 Самаркандского государственного медицинского университета **ORCID ID:** 0000-0003-2442-1523

Ибрагимова Малика Худайбергатовна

доктор медицинских наук, профессор Ташкентский государственный медицинский университет **ORCID ID:** 0000-0002-9235-1742

Рахимов Нодир Махамматкулович

доктор медицинских наук, профессор кафедры онкологии Самаркандского государственного медицинского университета **ORCID ID:** 0000-0001-5272-5503

Даминов Феруз Асадуллаевич

Декан лечебного факультета №2 Самаркандского государственного медицинского университета, доктор медицинских наук, доцент. Самарканд, Узбекистан.

Мирджураев Эльбек Миршавкатович

Заведующий кафедрой Нейрореабилитации Центра развития профессиональной квалификации медицинских работников МЗ РУз, д.м.н., профессор Ташкент, Узбекистан

Тагаев Шеркабул Бойкабулович

доктор медицинских наук, доцент кафедры хирургии, Ташкентский государственный медицинский университет. **ORCID:** 0009-0004-7661-9253.

Верстка: Хуршид Мирзахмедов

Контакт редакций журналов. www.tadqiqot.uz
ООО Tadqiqot город Ташкент,
улица Амира Темура пр.1, дом-2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Тел: (+998-94) 404-0000

Editorial staff of the journals of www.tadqiqot.uz
Tadqiqot LLC The city of Tashkent,
Amir Temur Street pr.1, House 2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Phone: (+998-94) 404-0000

Chief Editor:

Rizaev Jasur Alimjanovich
MD, DSc, Professor of Dental Medicine,
Rector of the Samarkand State Medical University
ORCID ID: 0000-0001-5468-9403

Deputy Chief Editor:

Ziyadullaev Shukhrat Khudayberdievich
Doctor of Medical Sciences, Deputy Director of the Institute
of Immunology and Human Genomics of the Academy of
Sciences of the Republic of Uzbekistan
ORCID ID: 0000-0002-9309-3933

Responsible secretary:

Samieva Gulnoza Utkurovna
doctor of Medical Sciences, Professor,
Samarkand State Medical University
ORCID ID: 0000-0002-6142-7054

Responsible for publication:

Shakhanova Shakhnoza Shavkatovna
PhD, Docent Department of Oncology
Samarkand State medical university
ORCID ID: 0000-0003-0888-9150

EDITORIAL BOARD:

Aripova Tamara Uktamovna

*Director of the Institute of Immunology and Human Genomics -
Doctor of Medical Sciences, Professor, Academician of the
Academy of Sciences of the Republic of Uzbekistan*

Jin Young Choi

*Professor Department of Oral and Maxillofacial
Surgery School of Dentistry Dental Hospital
Seoul National University, President of the
Korean Society of Maxillofacial Aesthetic Surgery*

Abdullaeva Nargiza Nurmatovna

*Doctor of Medical Sciences, Professor, Vice-Rector
Samarkand State Medical University, Chief Physician of
the 1st Clinic ORCID ID: 0000-0002-7529-4248*

Oripov Firdavs Suratovich

*Doctor of Medical Sciences, Professor,
Head of the Department of Histology, Cytology and
Embryology of Samarkand State Medical University.
ORCID ID: 0000-0002-0615-0144*

Mavlyanov Farkhod Shavkatovich

*Doctor of Medicine, Associate Professor of Pediatric
Surgery, Samarkand State Medical University
ORCID ID: 0000-0003-2650-4445*

Magzumova Nargiza Makhamovna

*Doctor of Medical Sciences, Professor, Department
of Obstetrics and Gynecology, Family Medicine, Tashkent State
Medical University. ORCID ID: 0000-0002-9313-4918*

Ochilov Ulugbek Usmanovich

*DSc, Docent, Head of the Psychiatry Course at the Faculty of
Postgraduate Education of SamSMU. Secretary of the Academic
Council of SamSMU. <https://orcid.org/0000-0003-3553-8727>*

Shavazi Nargiz Nuraliyena

*DSc, Associate Professor, Head of the Department of Obstetrics
and Gynecology N 3 of Samarkand State Medical University.
<https://orcid.org/0000-0001-7859-9955>*

Yuldashev Ravshan Zakhidovich

*Head of the Department of Oncology and Radiation Diagnostics
at Tajik State Medical University, Doctor of Medical Sciences,
Professor. Dushanbe, Tajikistan <https://orcid.org/0009-0002-7165-5373>*

Saidov Saidamir

*Doctor of Medical Sciences,
Tashkent Pharmaceutical Institute,
ORCID ID: 0000-0002-6616-5428*

Babadjanov Oybek Abdujabbarovich

*Doctor of sciences in medicine, Tashkent State
Medical University, Docent the Department of
Dermatovenerology, pediatric dermatovenerology
and AIDS, ORCID ID: 0000-0002-3022-916X*

Terebaev Bilim Aldamuratovich

*Doctor of Medical Sciences, Associate Professor,
Tashkent Pediatric Medical Institute,
Faculty of Children Department of Surgery.
ORCID ID: 0000-0002-5409-4327.*

Yuldashev Botir Akhmatovich

*Doctor of Medical Sciences, Associate Professor of
Pediatrics, Neonatology and Propaedeutics of Pediatrics,
Samarkand State Medical University No. 2.
ORCID ID: 0000-0003-2442-1523*

Ibragimova Malika Xudayberganovna

*Doctor of Medical Sciences, Professor,
Tashkent State Medical University
ORCID ID: 0000-0002-9235-1742*

Rahimov Nodir Maxammatkulovich

*DSc, Professor of Oncology,
Samarkand State Medical University
ORCID ID: 0000-0001-5272-5503*

Daminov Feruz Asadullaevich

*Dean of the Faculty of Medicine No. 2, Samarkand State
Medical University, Doctor of Medical Sciences, Associate
Professor. Samarkand, Uzbekistan.*

Mirjuraev Elbek Mirshavkatovich

*Head of the Department of Neurorehabilitation Center
for the development of professional qualification of
medical workers, Doctor of Medical Sciences,
Professor. Tashkent, Uzbekistan
<https://orcid.org/0009-0008-2111-4388>*

Tagaev Sher Kabul Baykabulovich

*Doctor of Medical Sciences, Associate Professor
of Surgery Department, Tashkent State Medical University
ORCID: 0009-0004-7661-9253.*

Page Maker: Khurshid Mirzakhmedov

Контакт редакций журналов. www.tadqiqot.uz
ООО Tadqiqot город Ташкент,
улица Амира Темура пр.1, дом-2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Тел: (+998-94) 404-0000

Editorial staff of the journals of www.tadqiqot.uz
Tadqiqot LLC The city of Tashkent,
Amir Temur Street pr.1, House 2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Phone: (+998-94) 404-0000

OBSTETRICS AND GYNECOLOGY

1. **Matlubov Mansur Muratovich, Muminov Abduhalim Abduvakil, Khudoyberdieva Gulrukh Sobirovna, Umarova Bibikhonum Azimjon kizi**
EFFECTIVENESS OF POSTOPERATIVE INTENSIVE THERAPY IN PREGNANT WOMEN WITH VARICOSE VEINS.....12

NEUROLOGY, PSYCHIATRY

2. **Mansurova Nargiza Asrorovna**
DIAGNOSTIC VALUE OF INFLAMMATORY PROCESSES IN DIFFERENTIATING PARKINSONISM SUBTYPES.....18
3. **Tulyaganova Nodirakhon Malikovna.**
EPIDEMIOLOGICAL ASPECTS OF DEVELOPMENTAL DISORDERS IN CHILDREN BORN FROM CONSANGUINEOUS MARRIAGES.....26
4. **Ochilov Ulug'bek Usmanovich, Turaev Bobir Temirpulotovich, Sultanov Shoxrux Khabibullaevich**
CORRECTION OF DEPRESSIVE DISORDERS AND EVALUATION OF THE EFFECTIVENESS OF COMPREHENSIVE REHABILITATION IN PATIENTS WITH CHEMICAL ADDICTIVE DISORDERS.....34
5. **Turaev Bobir Temirpulotovich, Sultanov Shoxrux Khabibullaevich**
FACTORS INFLUENCING THE EFFECTIVENESS OF MEDICAL AND SOCIAL REHABILITATION IN PATIENTS WITH CHEMICAL ADDICTIVE DISORDERS (LITERATURE REVIEW).....41
6. **Khakimova Sakhiba Ziyadulloyevna, Gaffarova Parvina Abdurafikovna**
ETIOPATHOGENETIC SIGNIFICANCE OF MAO-B INHIBITORS IN PARKINSON'S DISEASE AND THEIR ROLE IN REDUCING MOTOR SYMPTOMS.....48
7. **Mirzhuraev Elbek Mirshavkatovich, Adambaev Zufar Ibragimovich, Mamatkhanova Charos Bahodirovna**
STRATIFICATION OF MANAGEMENT FOR PATIENTS WITH COMBINED VERTEBROGENIC PATHOLOGY AND PELVIC ORGAN DYSFUNCTION: A MULTIDISCIPLINARY APPROACH.....55
8. **Rogov Alexey Vladimirovich, Lipartiya Mary Givievna**
CHARACTERISTICS OF THE SEVERITY OF PARANOID SCHIZOPHRENIA IN PATIENTS WITH AUTOAGGRESSIVE MANIFESTATIONS IN THE EARLY PERIOD OF THE DISEASE.....63

MORPHOLOGY

9. **Kiyomov Ikhtiyor Ergashevich, Islamov Shavkat Erjigitovich**
MORPHOLOGICAL CHANGES IN THE THYMUS DURING ACUTE EXPOSURE TO A DEFOLIANT.....69

ONCOLOGY

10. **Abdikarimov Azizbek Khurshidjon ugli, Yusupbekov Abrorbek Akhmedjanovich, Usmonov Begzod Boymatovich, Xasanov Akbar Ibroximovich**
HUMAN PAPILLOMAVIRUS AND OROPHARYNGEAL CANCER: CURRENT CLINICAL-EPIDEMIOLOGICAL AND PROGNOSTIC ASPECTS (REVIEW).....77

11. **Iskandarova Shakhnoza Tulkinovna, Khakimova Laylo Nuraliyevna, Yusupov Anvar Sobirovich**
STUDY OF THE DYNAMICS OF PROLACTIN AND GLUCOSE LEVELS IN PATIENTS WITH GASTRIC CANCER DURING THE PERIOPERATIVE PERIOD UNDER COMBINED EPIDURAL ANESTHESIA.....89
12. **Rakhmatov Dilshod Bakhridinovich**
EVALUATION OF RADIATION DOSE LOAD TO ORGANS AT RISK WHEN SWITCHING TO A HYPOFRACTIONATED REGIMEN OF POSTOPERATIVE RADIOTHERAPY FOR LEFT BREAST CANCER.....95
13. **Shernazarov Otamurod Narmuratovich**
ACOUSTIC ANALYSIS OF VOICE FUNCTION IN PATIENTS WITH BENIGN LARYNGEAL LESIONS.....101
14. **Ten Vladimir Denisovich, Alimov Ijod Rustamovich, Umarov Rustam Dilshodovich.**
OUR EXPERIENCE OF PERCUTANEOUS BIOPSY IN METASTATIC LESIONS OF THE LUMBAR SPINE.....105
15. **Umarov Rustam Dilshodovich, Alimov Ijod Rustamovich, Ten Vladimir Denisovich.**
ISOLATED LATERAL SURGICAL APPROACH FOR VERTEBRAL BODY TUMORS WITH EXTRADURAL INTRACANAL INVASION AT TH11–L2.....109
16. **Ismailov Avaz Alisherovich, Umarov Rustam Dilshodovich, Alimov Ijod Rustamovich,**
POSTERIOR DECOMPRESSIVE AND STABILIZING APPROACH FOR THORACIC AND LUMBAR VERTEBRAL BODY TUMORS WITH INTRACANAL EXTENSION.116
17. **Umarov Rustam Dilshodovich, Alimov Ijod Rustamovich, Ten Vladimir Denisovich**
ISOLATED LATERAL SURGICAL APPROACH FOR VERTEBRAL BODY TUMORS WITH EXTRADURAL INTRACANAL INVASION AT TH11–L2 LEVELS.....121
18. **Sharopov Sadullo Shukurillovich**
CORRELATION BETWEEN ELECTROENCEPHALOGRAPHIC CHANGES AND MRI CHARACTERISTICS IN PATIENTS WITH BRAIN TUMORS.....129

MEDICAL REHABILITATION

19. **Raimkulova Dilnoza Farkhaddinovna**
PROGNOSTIC CRITERIA AND ANALYSIS OF PHYSICAL PERFORMANCE IN ADOLESCENTS ENGAGED IN DIFFERENT TYPES OF SPORTS.....135
20. **Mamatkhanova Charos Bahodirovna**
STRATIFICATION OF SURGICAL AND REHABILITATION TREATMENT FOR POST-TRAUMATIC MYELOPATHIES AT THE CERVICAL AND THORACIC SPINE LEVELS.....142
21. **Mamatkhanova Charos Bahodirovna**
ANALYSIS OF PATIENTS WITH SPINAL PATHOLOGY AND SPINAL CORD DISEASES AT THE REPUBLICAN CENTER FOR REHABILITATION OF DISABLED PERSONS.....149
22. **Tukhtaev Firdavs Mukhitdinovich, Kadirov Jonibek Fayzullayevich**
THE IMPACT OF MINERAL AND ACID–BASE METABOLIC CORRECTION ON POSTOPERATIVE REHABILITATION IN CHILDREN WITH UROLITHIASIS.....155

DENTISTRY AND MAXILLOFACIAL SURGERY

23. **Boymurodov Shukhrat Abdujalilovich, Kurbanov Yoqubjon Khamdamovich, Yusupov Shokhrukh Shuhratovich, Djurayev Jamolbek Abdukakharovich, Soatov Ilyosjon Olimovich**
SIGNIFICANCE OF IL10 RS1800872, SERPINE1 RS1799768, NOS3 RS2070744, AND IL1B RS1143627 GENE POLYMORPHISMS IN PURULENT-NECROTIC PROCESSES OF THE MAXILLOFACIAL REGION.....160

24. **Alyavi Mufassal Nasirkhanovna, Khaydarov Artur Mikhaylovich, Alieva Muattar Abdulkhayevna**
COMPLEX TREATMENT OF CHRONIC GENERALIZED PERIODONTITIS IN PATIENTS WITH STABLE ANGINA PECTORIS.....171
25. **Ismoilov Mirkamol Xusan o'g'li Nigmatova Iroda Maratovna**
THE ROLE OF VITAMIN D IN THE CONDITION OF PERIODONTAL TISSUES DURING ORTHODONTIC TREATMENT IN PREGNANT WOMEN.....180
26. **Irgashev Shokhrukh Khasanovich**
ANALYSIS OF THE HYGIENIC INDICATORS OF THE ORAL MUCOSA OF PERSONS WHO HAVE UNDERGONE ORTHOPEDIC STOMATOLOGICAL TREATMENT.....190
27. **Ibragimova Malika Khudaiberganovna, Abduvahobova Dilnoza Anvarovna**
CLINICAL AND DIAGNOSTIC ASPECTS OF RED FLAT AND DEPRESSED ORAL MUCOSA.....196
28. **Rizaev Jasur Alimjanovich, Akhmedova Sayyora Mukhamadovna, Absalamova Nigora Fakhriddinovna**
IMPROVEMENT OF TREATMENT STRATEGIES FOR ORAL MUCOSAL LEUKOPLAKIA BASED ON IMMUNOHISTOCHEMICAL RESULTS.....204
29. **Otkhonova Mohinog Ganiyon qizi, Khramova Natalya Vladimirovna, Gafurov Zafar Atkhamovich**
JUSTIFICATION OF MAXILLARY RECONSTRUCTION USING A TIBIAL BONE AUTOGRAFT.....212
30. **Madazimov Madamin Muminovich, Turaev Feruz Fakhtullaevich, Yusufovna Mohamed Khava, Pustovetova Maria Gennadievna, Akramova Nozima Akramovna**
CELL-ASSISTED LIPOTRANSFER IN THE CORRECTION OF AESTHETIC AND POST-TRAUMATIC DEFORMITIES OF FACIAL SOFT TISSUES.....219

TRAUMATOLOGY

31. **Axtamov A'zam, Axtamov Azim**
STUDYING THE RESULTS OF RECONSTRUCTIVE SURGICAL TREATMENT OF COMBINED MENISCLE WOUNDS.....228
32. **Axtamov Azim, Axtamov A'zam**
DIAGNOSIS AND MODERN METHODS OF TREATMENT OF ACETABULUM INJURIES (LITERATURE REVIEW).....233
33. **Axtamov A'zam, Axtamov Azim**
EXPERIENCE IN TREATING INTRA-ARTICULAR FRACTURES OF THE DISTAL PART OF THE HUMERUS IN CHILDREN.....241
34. **Davirov Sharof Majidovich, Urinbaev Payzilla Urinbaevich, Mansurov Djalolidin Shamsidinovich**
OSTEOPLASTIC RECONSTRUCTION OF EXTENSIVE DIAPHYSEAL LONG BONE DEFECTS USING EXTERNAL FIXATION DEVICES.....246

PEDIATRICS

35. **Choliyev Matyoqub Sulaymanovich, Khotamov Khusniddin Narzullayevich, Tilavov O'ktam Khamrayevich**
SOFT TISSUE NECROSIS IN CHILDREN: CLINICAL FEATURES, DIAGNOSIS AND PRINCIPLES OF TREATMENT.....256
36. **Umarova Saodat Sulaymonovna**
VITAMIN D DEFICIENCY AS A PREDICTOR OF INFLAMMATORY ACTIVITY IN CHILDREN WITH ACUTE RHEUMATIC FEVER.....264

37. **Rakhmatullaev Akmal Abadbekovich, Ergashev Mukhammadjon Tursunovich**
EFFECTIVENESS OF ENDOSCOPIC CORRECTION METHODS IN CHILDREN WITH
PRIMARY HIGH-GRADE VESICoureTERAL REFLUX.....275
38. **Akhmedzhanova Nargiza Ismailovna, Ganieva Marifat Shokirovna, Majidova Nilufar
Mansuralievna.** INNOVATIV METHODS OF EARLY DIAGNOSIS OF
TUBULOINTERSTISIAL LESIONS IN ACUTE PYELONEPHRITIS IN CHILD.....281
39. **Terebayev Bilim Aldamuratovich, Barnakulov Umrzok Khasanovich**
PROBLEMS OF DIAGNOSIS AND TREATMENT OF DOLICHOSIGMA ASSOCIATED
WITH CHRONIC CONSTIPATION IN CHILDREN.....288
40. **Tilavov Uktam Khamraevich, Chuliev Matyokub Sulaimonovich, Khotamov Khusniddin
Narzullaevich, Abduqodirov Oybek Ahmadjonovich**
DIAGNOSIS AND TREATMENT OF CYSTIC ADENOMATOID MALFORMATION OF
THE LUNGS IN CHILDREN.....299
41. **Tukhtaev Firdavs Mukhitdinovich, Kadirov Jonibek Fayzullayevich**
PERSONALIZED METABOLIC APPROACHES IN CHILDREN'S MEDICAL
REHABILITATION.....307
42. **Ibragimova Sapura Zakhidovna, Almedova Nargiza Nigmatjonovna, Botirov Mirzokhid
Mansurzhon Ugli, Shadibekova Oksana Borisovna, Aripova Nazokat Bahodirovna,
Erimbetova Indira Oralbaevna**
RESULTS OF THE USE OF EMICIZUMAB IN PATIENTS WITH HEMOPHILIA A – A
PILOT SINGLE-CENTER STUDY.....312
43. **Khaidarov Khusan Anvarovich**
THE ROLE OF VITAMIN D STATE IN DETERMINING THE SEVERITY AND
EFFECTIVENESS OF INPATIENT TREATMENT OF RECURRENT RESPIRATORY
TRACT INFECTIONS IN YOUNG CHILDREN.....319

SURGERY

44. **Abdurahmonov Ma'mur Mustafaevich, Umedov Xushvaqt Alisherovich,**
ASSESSMENT OF THE IMMUNE SYSTEM STATUS IN ACUTE DESTRUCTIVE
PANCREATITIS.....325
45. **Kurbanov Aslbek Sadullaevich, Arziev Ismoil Alievich, Arzieva Gulnora Borievna**
DIAGNOSTIC AND THERAPEUTIC POTENTIAL OF LAPAROSCOPY IN PATIENTS
WITH BLUNT ABDOMINAL TRAUMA.....331
46. **Yuldashov Parda Arzikulovich, Rakhmanov Kosim Erdanovich, Sayinaev Farrukh
Karamatovich**
OPTIMIZATION OF SURGICAL TREATMENT OF POSTOPERATIVE VENTRAL
HERNIAS BASED ON LAPAROSCOPIC PROSTHETIC METHODS.....336
47. **Kurbanova Sanobar Yuldashevna, Kamalov Zainitdin Saifutdinovich, Azizova Zukhra
Shukhratovna**
CLINICAL, IMMUNOLOGICAL, AND IMMUNOGENETIC FEATURES OF DISEASE
DEVELOPMENT IN ADULT PATIENTS WITH PYELONEPHRITIS (A LITERATURE
REVIEW).....346
48. **Umedov Xushvaqt Alisherovich, Abdurahmonov Ma'mur Mustafaevich**
CONTEMPORARY CLINICO-MORPHOLOGICAL CLASSIFICATION OF ACUTE
PANCREATITIS AND ITS COMPLICATIONS.....355
49. **Ollabergenov Odilbek Tozhiddinovich, Terebaev Bilim Aldamuratovich, Parpiev
Mirziyod Mirsaitovich**
CURRENT TRENDS IN THE DIAGNOSIS AND SURGICAL TREATMENT OF LIVER
ECHINOCOCCOSIS IN CHILDREN.....362

50. **Askarov Pulat Azadovich, Bazarov Bahrom Boymamatovich, Kurbaniyazov Zafar Babadjanovich**
THE IMPACT OF CONCOMITANT SURGICAL PATHOLOGY ON THE OUTCOMES OF SIMULTANEOUS OPERATIONS IN PATIENTS WITH VENTRAL HERNIAS AND MORBID OBESITY.....369
51. **Egamberdiev Abdukahhor Abduqodirovich, Arzieva Gulnora Borievna**
ASSESSMENT OF CLINICAL OUTCOMES AND TECHNICAL FEATURES OF ENDOVIDEOSURGICAL TREATMENT OF HIATAL HERNIA.....377
52. **Madazimov Madamin Muminovich, Turaev Feruz Fakhtullayevich, Kiziun Yana Viktorovna, Pustovetova Maria Gennadievna, Akramova Nozima Akramovna, Kiyamov Azizbek Utkirovich**
STUDY OF BREAST BLOOD SUPPLY USING DUPLEX ULTRASOUND IN REDUCTION MAMMOPLASTY.....385

INFECTIOUS DISEASE

53. **Imamov Otabek Sunnatovich, Mahmudov Sherzod Xasanovich, Djumaev Normurod Davlatovich, Bakhodirova Shahlo Bahoriddinovna, Tokhtayev Gairatillo Shukhratillo ugli.**
THE IMPORTANCE OF TEMPERATURE IN THE ETIOLOGY AND MODERN LABORATORY DIAGNOSTICS OF DERMATOMYCOSIS.....394
54. **Imamov Otabek Sunnatovich, Mahmudov Sherzod Xasanovich, Djumaev Normurod Davlatovich, Ernazarova Feruzabonu Ravshanbekovna, Tokhtayev Gairatillo Shukhratillo ugli**
MODERN ETIOLOGICAL SPECTRUM OF DERMATOMYCOSIS PATHOGENS IN THE TASHKENT REGION.....403
55. **Yusupov Mashrab Ismatillovich**
GUT MICROBIOTA: CORRELATION OF PHYSICAL LOAD, DIET, AND HEAT EXCHANGE.....409
56. **Faizullaev Sherzod Kobiljon ugli, Shakharov Dilshod Zhura ugli, Tukhtaev Shohzod Eshmurod ugli, Khuzhamberdiev Sodikjon Uchkun ugli, Samibaeva Umida Khurshidovna**
FEATURES OF THE CLINICAL PICTURE OF THE NEW CORONAVIRUS INFECTION (COVID-19).....420
57. **Samibaeva Umida Khurshidovna, Faizullaev Sherzod Kobiljon ugli, Shakharov Dilshod Zhura ugli, Tukhtaev Shohzod Eshmurod ugli, Khuzhamberdiev Sodikjon Uchkun ugli**
EVALUATION OF THE CLINICAL EFFICACY OF GLYCYRRHIZIC ACID IN PATIENTS WITH COVID-19.....435
58. **Samibaeva Umida Khurshidovna, Faizullaev Sherzod Kobiljon ugli, Shakharov Dilshod Zhura ugli, Tukhtaev Shohzod Eshmurod ugli, Khuzhamberdiev Sodikjon Uchkun ugli**
EVALUATION OF THE CLINICAL EFFICACY OF GLYCYRRHIZIC ACID IN PATIENTS WITH COVID-19.....447
59. **Rashidov Zafar Rakhmatullaevich**
CLINICAL SIGNIFICANCE OF DOPLEROGRAPHY IN THE DETECTION AND MONITORING OF RENAL TUBERCULOSIS.....453

OPHTHALMOLOGY

60. **Nazirova Zulfiya Rustamovna, Turakulova Dilfuza Mukhitdinovna, Khamrayev Shakhruh Ilkhom ugli.**
SURGICAL TREATMENT OF CONGENITAL AND ACQUIRED CATARACTA IN CHILDREN: ANALYSIS OF MODERN METHODS AND STAGES.....460

61. **Turakulova Dilfuza Mukhitdinovna, Nazirova Zulfiya Rustamovna, Axrorova Malika Nosir qizi.**
ANALYSIS OF SURGICAL TREATMENT OF INTRAOCULAR LENS SUBLUCATION IN CHILDREN.....470
62. **Iskandarova Shakhnoza Tulkinovna, Miralimova Malika Mukhammadovna, Yangiyeva Nodira Rakhimovna**
ASSESSMENT OF THE INFORMATIVE VALUE OF PARENTAL QUESTIONNAIRES IN THE EARLY DETECTION OF REFRACTIVE DISORDERS IN PRESCHOOL CHILDREN.....477

NEUROSURGERY

63. **Asadov Khamidulla Fatkhullaevich, Okhunov Alisher Oripovich, Asadov Khumoyun Hamidullaevich.**
A NERVE-SPARING ENDOSCOPIC TUNNEL TECHNIQUE FOR THE SURGICAL TREATMENT OF CHRONIC OCCIPITAL MIGRAINE.....485
64. **Okhunov Alisher Oripovich, Asadov Khamidulla Fatkhullaevich, Asadov Khumoyun Hamidullaevich.**
STRATEGY FOR SELECTING THE EXTENT AND STAGING OF SURGICAL TREATMENT IN COMBINED FORMS OF CHRONIC MIGRAINE.....492



EDC: [616.31:616.716.8-002.36]-06-08

BOYMURODOV Shukhrat Abdujalilovich

DSc, Professor

KURBANOV Yoqubjon Khamdamovich

PhD, Associate Professor

YUSUPOV Shokhrukh Shuhratovich

PhD, Associate Professor

DJURAYEV Jamolbek Abdukakharovich

DSc, Professor


SOATOV Ilyosjon Olimovich

PhD, Assistant

Tashkent State Medical University, Uzbekistan

**SIGNIFICANCE OF IL10 RS1800872, SERPINE1 RS1799768, NOS3 RS2070744,
AND IL1B RS1143627 GENE POLYMORPHISMS IN PURULENT-NECROTIC
PROCESSES OF THE MAXILLOFACIAL REGION**

For citation: Boymurodov Shukhrat Abdujalilovich, Kurbanov Yoqubjon Khamdamovich, Yusupov Shokhrukh Shuhratovich, Djurayev Jamolbek Abdukakharovich, Soatov Ilyosjon Olimovich. Significance of IL10 rs1800872, SERPINE1 rs1799768, NOS3 rs2070744, and IL1 β rs1143627 Gene Polymorphisms in Purulent-Necrotic Processes of the Maxillofacial Region

 <http://dx.doi.org/10.5281/zenodo.18519846>

ANNOTATION

This study is devoted to determining the pathogenetic significance of IL10 rs1800872, SERPINE1 rs1799768, NOS3 rs2070744, and IL1 β rs1143627 gene polymorphisms in purulent-necrotic processes of the maxillofacial region developing under the influence of various etiological factors. The results of molecular genetic analyses demonstrated that these genes play an important role in the regulation of inflammatory processes, disturbances of microcirculation, the formation of thrombogenic states, and alterations of the immune response. Polymorphisms of the IL10 gene affect the efficiency of anti-inflammatory mechanisms, potentially contributing to a more severe course of necrotic processes. Variants of the SERPINE1 and NOS3 genes are associated with endothelial dysfunction and impaired tissue perfusion. Polymorphisms of the IL1 β gene are characterized by excessive activation of inflammatory mediators. The obtained results indicate the promising potential of these genetic markers for early diagnosis of purulent-necrotic lesions of the maxillofacial region, identification of high-risk groups, and development of individualized therapeutic strategies.

Keywords: purulent-necrotic processes of the maxillofacial region, gene polymorphism, IL10, SERPINE1, molecular genetics.

BOYMURADOV Shuxrat Abdujalilovich

T.f.d., professor

KURBANOV Yoqubjon Xamdamovich

t.f.n., dotsent

YUSUPOV Shoxrux Shuhratovich

t.f.n., dotsent

DJURAYEV Jamolbek Abdukaxarovich

t.f.d., professor

SOATOV Ilyosjon Olimovich

t.f.n., assistant

Toshkent davlat tibbiyot universiteti, O'zbekiston

**YUZ-JAG' SOHASIDA YIRINGLI NEKROZ JARAYONLARIDA IL10 rs1800872,
SERPINE1 rs1799768, NOS3 rs2070744, IL1 β rs1143627 GENLAR
POLIMORFIZMLARINING AHAMIYATI**

ANNOTATSIYA

Ushbu tadqiqot yuz-jag' sohasida turli etiologik omillar ta'sirida rivojlanadigan yiringli-nekrotik jarayonlarda IL10 rs1800872, SERPINE1 rs1799768, NOS3 rs2070744 va IL1 β rs1143627 genlari polimorfizmlarining patogenetik ahamiyatini aniqlashga bag'ishlangan. Molekulyar-genetik tahlillar natijalari ushbu genlarning yallig'lanish jarayonlarini tartibga solish, mikrosirkulyatsiya buzilishlari, trombogen holatlar va immun javobning o'zgarishida muhim rol o'ynashini ko'rsatdi. IL10 geni polimorfizmlari yallig'lanishga qarshi mexanizmlarning samaradorligiga ta'sir etib, nekrozning og'ir kechishiga olib kelishi mumkin. SERPINE1 va NOS3 genlaridagi variantlar qon tomir endoteliyasi funksiyasi va to'qimalar perfuziyasining buzilishi bilan bog'liq ekanligi aniqlandi. IL1 β gen polimorfizmlari esa yallig'lanish mediatorlarining ortiqcha faollashuvi bilan xarakterlandi. Olingan natijalar yuz-jag' sohasidagi yiringli nekrozlarni erta diagnostika qilish, xavf guruhlarini aniqlash va individual davolash strategiyalarini ishlab chiqishda ushbu genetik markerlardan foydalanish istiqbolli ekanligini ko'rsatadi.

Kalit so'zlar: yuz-jag' sohasida yiringli nekroz, gen polimorfizmi, IL10, SERPINE1, molekulyar genetika.

БОЙМУРАДОВ ШУХРАТ Абдужалилович,

доктор медицинских наук, профессор

КУРБАНОВ Ёқубжон Хамдамович,

кандидат медицинских наук, доцент

ЮСУПОВ Шохрux Шухратович,

кандидат медицинских наук, доцент

ДЖУРАЕВ Жамолбек Абдукахарович,

доктор медицинских наук, профессор

СОАТОВ Ильёсжон Олимович,

кандидат медицинских наук, ассистент

Ташкентский государственный медицинский университет, Узбекистан

**ЗНАЧЕНИЕ ПОЛИМОРФИЗМОВ ГЕНОВ IL10 RS1800872, SERPINE1
RS1799768, NOS3 RS2070744 И IL1 β RS1143627 ПРИ ГНОЙНО-НЕКРОТИЧЕСКИХ
ПРОЦЕССАХ ЧЕЛЮСТНО-ЛИЦЕВОЙ ОБЛАСТИ**

АННОТАЦИЯ

Настоящее исследование посвящено определению патогенетической значимости полиморфизмов генов IL10 rs1800872, SERPINE1 rs1799768, NOS3 rs2070744 и IL1 β rs1143627 при гнойно-некротических процессах челюстно-лицевой области, развивающихся под воздействием различных этиологических факторов. Результаты молекулярно-генетического анализа показали, что указанные гены играют важную роль в регуляции воспалительных

процессов, нарушениях микроциркуляции, формировании тромбогенных состояний и изменениях иммунного ответа. Полиморфизмы гена IL10 оказывают влияние на эффективность противовоспалительных механизмов, что может способствовать более тяжелому течению некротических процессов. Варианты генов SERPINE1 и NOS3 ассоциированы с дисфункцией сосудистого эндотелия и нарушением тканевой перфузии. Полиморфизмы гена IL1 β характеризуются избыточной активацией медиаторов воспаления. Полученные результаты свидетельствуют о перспективности использования данных генетических маркеров для ранней диагностики гнойно-некротических поражений челюстно-лицевой области, идентификации групп риска и разработки индивидуализированных лечебных стратегий.

Ключевые слова: гнойно-некротические процессы челюстно-лицевой области, генетический полиморфизм, IL10, SERPINE1, молекулярная генетика.

Kirish. Yuz-jag‘ sohasida yiringli-nekrotik jarayonlar zamonaviy stomatologiya, jag‘-yuz jarrohligi va klinik immunologiyaning dolzarb muammolaridan biri hisoblanadi. Ushbu patologiyalar ko‘pincha infeksiyon omillar, travmatik shikastlanishlar, qon tomir buzilishlari, metabolik kasalliklar hamda immun tizim faoliyatidagi yetishmovchiliklar fonida rivojlanadi [1,4,7]. So‘nggi yillarda bunday jarayonlarning og‘ir kechishi va davolashga chidamliligi nafaqat tashqi etiologik omillar, balki irsiy-genetik moyillik bilan ham chambarchas bog‘liqligi isbotlanmoqda [9,12].

Adabiyot manbalarida yuz-jag‘ sohasida yiringli nekroz rivojlanishida yallig‘lanish mediatorlari va sitokinlar muhim o‘rin tutishi qayd etilgan [2,5]. Xususan, IL10 geni yallig‘lanishga qarshi sitokinlarni kodlovchi asosiy genlardan biri bo‘lib, uning rs1800872 polimorfizmi immun javobning intensivligi va davomiyligini belgilashda muhim ahamiyatga ega [3]. Tadqiqotlar shuni ko‘rsatadiki, IL10 genining ayrim allel variantlari yallig‘lanish jarayonining uzayishi, nekrotik o‘choqlarning kengayishi va reparativ jarayonlarning sekinlashuvi bilan bog‘liq [6]. Ayniqsa, immuniteti susaygan yoki surunkali kasalliklarga ega bemorlarda ushbu polimorfizmning klinik ahamiyati yanada yaqqol namoyon bo‘ladi [3,8].

SERPINE1 geni fibrinoliz jarayonini tartibga soluvchi asosiy omillardan biri bo‘lib, uning rs1799768 polimorfizmi trombogen holatlarning rivojlanishiga ta‘sir ko‘rsatadi [6,11]. Bir qator mualliflar SERPINE1 genidagi noqulay variantlar yuz-jag‘ sohasida mikrosirkulyatsiyaning buzilishi, to‘qimalarda ishemiya va nekroz rivojlanish xavfini oshirishini ta‘kidlaydilar [10]. Ayniqsa, qandli diabet, yurak-qon tomir kasalliklari yoki postinfektsion holatlar fonida bu gen polimorfizmlarining salbiy ta‘siri kuchayadi [8].

NOS3 geni tomonidan kodlanadigan endotelial azot oksidi sintazasi qon tomir tonusi va perfuziyasini saqlashda muhim rol o‘ynaydi [8]. NOS3 rs2070744 polimorfizmi endotelial disfunktsiya rivojlanishi bilan bog‘liq bo‘lib, bu holat yuz-jag‘ sohasida yiringli-nekrotik jarayonlarning og‘ir kechishiga sabab bo‘lishi mumkin [7-11]. Tadqiqotlarda ushbu gen variantlariga ega bemorlarda to‘qimalarning regeneratsiya salohiyati past bo‘lishi va jarrohlikdan keyingi asoratlar ko‘proq uchrashi qayd etilgan [6].

IL1 β geni yallig‘lanishning asosiy proinflamator mediatorlaridan biri bo‘lib, uning rs1143627 polimorfizmi sitokin ishlab chiqarish darajasini belgilaydi [1-5]. Adabiyotlarda IL1 β genidagi ayrim genotiplar yallig‘lanish reaksiyasining haddan tashqari faollashuvi, og‘riq sindromining kuchayishi va yiringli jarayonlarning tez tarqalishi bilan bog‘liqligi ko‘rsatilgan [2]. Bu holat, ayniqsa, jag‘ suyaklarining osteonekrozi va yumshoq to‘qimalarning keng zararlanishi bilan kechuvchi klinik shakllarda ahamiyatlidir [11].

Shu tariqa, adabiyotlar tahlili yuz-jag‘ sohasidagi yiringli-nekrotik jarayonlar rivojlanishida IL10, SERPINE1, NOS3 va IL1 β genlari polimorfizmlarining muhim patogenetik ahamiyatga ega ekanligini ko‘rsatadi. Ushbu genetik omillar immun javob, qon tomir holati va yallig‘lanish mediatorlari faolligini belgilab, kasallikning kechishi va prognoziga sezilarli ta‘sir ko‘rsatadi [1]. Gen polimorfizmlarini hisobga olgan holda individual yondashuv asosida diagnostika va davolash strategiyalarini ishlab chiqish yuz-jag‘ sohasidagi yiringli nekrozlarni samarali boshqarishda istiqbolli yo‘nalishlardan biri hisoblanadi [4].

Olingan natijalar. Olib borilgan molekulyar-genetik tahlil natijalariga ko‘ra, IL10 geni C592A (rs1800872) polimorfizmi bo‘yicha allellar va genotiplar taqsimlanishi tadqiqotning barcha klinik guruhleri hamda nazorat guruhi o‘rtasida sezilarli darajada farqlanishi aniqlandi. Mazkur polimorfizm immun javobni tartibga solishda muhim ahamiyatga ega bo‘lib, uning turli allel variantlari yallig‘lanish jarayonlarining og‘irligi va nekrotik asoratlar rivojlanishiga ta‘sir ko‘rsatishi mumkin.

Birinchi guruhda, ya‘ni postkovid sindrom bilan bog‘liq yuz-jag‘ sohasida yiringli nekroz rivojlangan bemorlarda, yovvoyi A allelining ulushi 51,7% ni tashkil etgan bo‘lsa, minor C alleli 48,3% darajada qayd etildi. Bu ko‘rsatkichlar ushbu guruhda allellar deyarli teng nisbatda taqsimlanganini ko‘rsatadi. Genotiplar bo‘yicha o‘tkazilgan chuqur tahlil natijasida bemorlarning 25,0% ida gomozi got yovvoyi A/A genotipi aniqlangan bo‘lsa, asosiy ulush — 53,3% bemorlarda geterozigot A/C genotipi kuzatildi. Shu bilan birga, 21,7% hollarda gomozi got noyovvoyi C/C genotipi aniqlanib, bu postkovid fonida IL10 genining minor variantlari kengroq tarqalganligini ko‘rsatadi. Geterozigot genotipning yuqori ulushi mazkur polimorfizmning klinik namoyon bo‘lishida muhim rol o‘ynashi mumkinligini taxmin qilish imkonini beradi.

Ikkinchi guruhda, ya‘ni poliangit bilan bog‘liq yuz-jag‘ sohasida yiringli nekroz mavjud bemorlarda, yovvoyi A alleli 57,5% ulush bilan ustunlik qilgan, minor C alleli esa 42,5% ni tashkil etgan. Genotipiy taqsimlanish tahlili shuni ko‘rsatdiki, ushbu guruhda A/A gomozi got genotipi 33,3% hollarda aniqlangan bo‘lib, bu ko‘rsatkich birinchi guruhga nisbatan yuqoriroqdir. A/C geterozigot genotipi 48,3% bemorlarda qayd etilgan, C/C gomozi got genotipi esa nisbatan kam — 18,3% hollarda uchragan. Mazkur natijalar poliangit bilan kechuvchi holatlarda yovvoyi allelning nisbatan ustunligini va IL10 genining yallig‘lanishga qarshi ta‘siri muhim ahamiyatga egaligini ko‘rsatadi.

Uchinchi guruhda, ya‘ni surunkali buyrak yetishmovchiligi sababli dializ olayotgan va yuz-jag‘ yiringli nekroz bilan kechayotgan bemorlarda, minor C allelining ustunligi aniqlandi. Ushbu guruhda yovvoyi A allelining ulushi 43,3% ni tashkil etgan bo‘lsa, minor C alleli 56,7% darajada qayd etildi. Genotiplar bo‘yicha tahlil natijasida A/A genotipi 20,0% bemorlarda aniqlangan, A/C genotipi 46,7% hollarda uchragan, C/C gomozi got genotipi esa 33,3% bemorlarda qayd etilgan. C/C genotipining yuqori ulushi bu guruhda immun javobning susayishi va yallig‘lanish jarayonlarining surunkali kechishiga genetik moyillik mavjudligini ko‘rsatadi.

Nazorat guruhida esa allellar va genotiplar taqsimlanishi boshqa guruhlardan farq qiluvchi xususiyatlarga ega bo‘ldi. Xususan, A allelining ulushi 40,8% ni, C alleli esa 59,2% ni tashkil etdi. Genotipiy taqsimlanish natijalariga ko‘ra, A/A genotipi 18,3% hollarda, A/C genotipi 45,0% hollarda, C/C genotipi esa 36,7% hollarda aniqlangan. Ushbu ko‘rsatkichlar populyatsiyada minor allel va C/C genotipining nisbatan yuqori uchrash chastotasini aks ettiradi.

Olingan natijalar tahliliga ko‘ra, kuzatilgan genotiplar taqsimoti Hardy–Vaynberg qonuni asosida hisoblangan nazariy taqsimotdan statistik jihatdan sezilarli og‘ish ko‘rsatmadi ($\chi^2 < 3,84$; $p > 0,05$). Bu esa mazkur guruhda genotiplar taqsimoti Hardy–Vaynberg muvozanatiga to‘liq mos kelishini tasdiqlaydi (1-jadval).

1-jadval

Ikkinchi guruh bemorlarida turli genlar polimorfizmlarini Hardy–Vaynberg qonuni asosida tekshirish natijalari

Polimorfizm turlari	Ikkiinchi guruh							χ^2	p-value
	Kuzatilgan			Kutilayotgan					
	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi			
IL10 rs1800872	48.33	18.33	48.33	33.33	48.33	18.33	0.007	0.43	

SERPINE1 rs1799768	26.67	43.33	30.0	14.02	29.97	16.02	1.05	0.305
NOS3 rs2070744	65.0	28.33	6.67	62.66	32.98	4.33	1.19	0.275
IL1β rs1143627	11.67	50.0	38.33	13.33	46.45	40.11	0.352	0.553

Uchinchi guruhda kuzatilgan va nazariy kutilayotgan genotiplar taqsimoti tahlil qilinganda, IL10 geni C592A (rs1800872) polimorfizmi bo'yicha C/C, C/A va A/A genotiplari mos ravishda 0,200/0,188, 0,467/0,491 va 0,333/0,325 ko'rsatkichlarda qayd etildi.

SERPINE1 geni 4G/5G (rs1799768) polimorfizmi bo'yicha esa 4G/4G, 4G/5G va 5G/5G genotiplari taqsimoti mos ravishda 0,433/0,412, 0,417/0,460 va 0,150/0,128 darajasida kuzatildi.

NOS3 geni T786C (rs2070744) polimorfizmi tahlilida T/T, T/C va C/C genotiplari mos ravishda 0,467/0,467, 0,433/0,433 va 0,100/0,100 ko'rsatkichlar bilan ifodalandi.

Shuningdek, IL1β geni C-511T (rs1143627) polimorfizmi bo'yicha C/C, C/T va T/T genotiplari taqsimoti mos ravishda 0,350/0,350, 0,483/0,483 va 0,167/0,167 darajasida kuzatildi.

Ushbu natijalar tahliliga ko'ra, kuzatilgan va nazariy taqsimot o'rtasida statistik jihatdan sezilarli farq aniqlanmadi, ya'ni barcha ko'rsatkichlar Hardy–Vaynberg qonuniga muvofiq qayd etildi ($\chi^2 < 3,84$; $p > 0,05$) (2-jadval).

2-jadval

Uchinchi guruh bemorlarida turli genlar polimorfizmlarini Hardy–Vaynberg qonuni asosida tekshirish natijalari

Polimorfizm turlari	Uchinchi guruh							χ^2	p-value
	Kuzatilgan			Kutilayotgan					
	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi			
IL10 rs1800872	20.0	46.67	33.33	18.78	49.12	32.45	0.149	0.699	
SERPINE1 rs1799768	43.33	41.67	15.0	41.17	45.98	12.83	0.529	0.467	
NOS3 rs2070744	46.67	43.33	10.0	46.7	43.28	10.0	0.0	0.99	
IL1β rs1143627	35.0	48.33	16.67	35.0	48.32	16.67	0.0	0.99	

Nazorat guruhida kuzatilgan va nazariy kutilayotgan genotiplar taqsimoti tahlil qilinganda, IL10 geni C592A (rs1800872) polimorfizmi bo'yicha C/C, C/A va A/A genotiplari mos ravishda 0,183/0,167, 0,450/0,483 va 0,367/0,350 ko'rsatkichlarda aniqlandi.

SERPINE1 geni 4G/5G (rs1799768) polimorfizmi bo'yicha esa 4G/4G, 4G/5G va 5G/5G genotiplari taqsimoti mos ravishda 0,217/0,218, 0,500/0,498 va 0,283/0,285 darajasida qayd etildi.

NOS3 geni T786C (rs2070744) polimorfizmi tahlilida T/T, T/C va C/C genotiplari mos ravishda 0,600/0,601, 0,350/0,349 va 0,050/0,051 ko'rsatkichlar bilan namoyon bo'ldi.

Shuningdek, IL1β geni C-511T (rs1143627) polimorfizmi bo'yicha C/C, C/T va T/T genotiplari taqsimoti mos ravishda 0,467/0,433, 0,383/0,450 va 0,150/0,117 darajasida qayd etildi.

Olingan natijalar tahliliga ko'ra, kuzatilgan va nazariy taqsimotlar o'rtasida statistik jihatdan ishonchli farq aniqlanmadi, ya'ni genotiplar taqsimoti Hardy–Vaynberg muvozanatiga to'liq mos kelishi tasdiqlandi ($\chi^2 < 3,84$; $p > 0,05$) (3-jadval).

3-jadval

Nazorat guruh tekshiruvchilarida turli genlar polimorfizmlarini Hardy–Vaynberg qonuni asosida tekshirish natijalari

Polimorfizm turlari	Nazorat guruh							χ ²	p-value
	Kuzatilgan			Kutilayotgan					
	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi	Gomozig ot yovvoyi	Geterizog	Gomozig ot noyovvoyi			
IL10 rs1800872	18.33	45.0	36.67	16.67	48.32	35.0	0.28	0.59	
SERPINE1 rs1799768	21.67	50.0	28.33	21.78	49.78	28.45	0.01	0.92	
NOS3 rs2070744	60.0	35.0	5.0	60.06	34.88	5.06	0.01	0.92	
IL1β rs1143627	46.67	38.33	15.0	43.33	44.98	11.66	1.32	0.25	

Shuningdek, tadqiqot davomida olingan natijalar asosida bemor guruhlarida tekshirilgan barcha genlar — IL10 geni C592A (rs1800872), SERPINE1 geni –675 5G/4G (rs1799768), NOS3 geni C786T (rs2070744) va IL1β geni T31C (rs1143627) polimorfizmlarining kasallik rivojlanishidagi patogenetik ahamiyati baholandi.

Mazkur yondashuv orqali turli etiopatogenetik mexanizmlar asosida rivojlangan yuz-jag‘ sohasidagi nekrotik holatlarga ega bemorlarda umumiy hamda etiopatogenetik omillarga xos genlar polimorfizmlarining ahamiyati kompleks tarzda tahlil qilindi.

Bunda statistik ishonchlilik darajasi xi-kvadrat ko‘rsatkichi (χ²) yordamida aniqlanib, genetik omillarning kasallik rivojlanishidagi xavf yo‘nalishini baholash maqsadida ehtimollar nisbati (OR) ko‘rsatkichi hisoblab chiqildi (4-5-jadvallar).

Ushbu yondashuv tadqiqot doirasida turli genetik variantlarning klinik ahamiyatini aniqlash, shuningdek ularning kasallik patogenezidagi o‘rnini tizimli va chuqur tahlil qilish imkonini berdi.

4-jadval

Postkovid sindromi bilan bog‘liq yuz-jag‘ sohasida nekrotik jarayon rivojlanishida tekshirilgan genlar polimorfizmlarining ahamiyati

Polimorfizm turlari	Allel va genotiplar turlari	Birinchi guruh		Nazorat guruhi		OR	95%CI	χ ²	P value
		N=60	%	N=60	%				
IL10 rs1800872	A	62	51.66	49	40.83	1.54	0.93-2.58	2.83	0.093
	C	58	48.33	71	59.17	0.646	0.387-1.07	2.83	0.093
	AA	15	25.0	11	18.33	1.48	0.618-3.56	0.78	0.376
	AC	32	53.33	27	45.0	1.51	0.679-3.37	0.83	0.362
	CC	13	21.67	22	36.67	0.44	0.192-1.04	3.26	0.07
SERPINE1 rs1799768	4G	76	63.33	56	46.67	1.94	1.17-3.31	6.73	0.010
	5G	44	36.66	64	53.33	0.507	0.302-0.84	6.73	0.010

	4G/4G	26	43.33	13	21.67	2.76	1.325-5.76	6.42	0.012
	4G/5G	24	40.0	30	50.0	0.667	0.323-1.37	1.21	0.271
	5G/5G	10	16.67	17	28.33	0.506	0.210-1.22	2.34	0.126
NOS3 rs2070744	T	71	59.17	93	77.5	0.421	0.42-0.738	9.23	0.003
	C	49	40.83	27	22.5	2.377	1.355-4.17	9.23	0.003
	TT	22	36.67	36	60.0	0.386	0.185-0.80	6.54	0.011
	TC	27	45.0	21	35.0	1.52	0.729-3.17	1.25	0.264
	CC	11	18.33	3	5.0	4.26	1.12-16.17	5.17	0.023
IL1β rs1143627	C	59	49.17	79	71.67	0.502	0.29-0.84	6.82	0.010
	T	61	50.83	41	45.0	1.99	1.18-3.35	6.82	0.010
	CC	13	21.67	28	46.67	0.316	0.143-0.70	8.36	0.004
	CT	33	55.0	23	38.33	1.96	0.95-4.07	3.34	0.068
	TT	14	23.33	9	15.0	1.72	0.682-4.36	1.34	0.427

4-jadvalda keltirilgan natijalar tahlil qilinganda, IL10 geni C592A (rs1800872) polimorfizmida allellar va genotiplar taqsimotiga ko‘ra, A alleli va postkovid sindromi bilan bog‘liq yuz-jag‘ sohasida nekrotik jarayon rivojlanishi o‘rtasida statistik jihatdan ishonchli bo‘lmasa-da, musbat assotsiatsiyaga moyil kuchli tendensiya mavjudligi aniqlandi ($\chi^2 = 2,83$; $p = 0,093$).

Unga ko‘ra, A alleli kasallik rivojlanish xavfini 1,54 marta oshirishi mumkinligi aniqlandi (95% CI: 0,93–2,58). Shu bilan birga, C alleli kasallik rivojlanish xavfini taxminan 35% ga kamaytirishi mumkinligini ko‘rsatdi (OR = 0,646; 95% CI: 0,387–1,07; $\chi^2 = 2,83$; $p = 0,093$), biroq bu natijalar statistik ahamiyat kasb etmadi.

Genotiplar tahlilida AA genotipi bemorlarda nazorat guruhiga nisbatan ko‘proq uchrashi orqali kasallik rivojlanish xavfini 1,48 marta oshirishi kuzatilgan bo‘lsa-da, bu bog‘liqlik statistik jihatdan ishonchli emasligi qayd etildi (95% CI: 0,618–3,56; $\chi^2 = 0,78$; $p = 0,376$). Shunga o‘xshash holat AC genotipi tashuvchilarida ham kuzatildi (OR = 1,51; 95% CI: 0,679–3,37; $\chi^2 = 0,83$; $p = 0,362$).

Boshqa tomondan, CC genotipi tashuvchilarida kasallik rivojlanish xavfi deyarli ikki baravar kamayishi aniqlangan (OR = 0,44; 95% CI: 0,192–1,04) bo‘lib, bu natija statistik jihatdan ishonchli bo‘lmasa-da, kuchli tendensiya mavjudligini ko‘rsatdi ($\chi^2 = 3,26$; $p = 0,07$).

Shuningdek, SERPINE1 geni -675 5G/4G (rs1799768) polimorfizmi bo‘yicha yovvoyi 4G alleli va postkovid sindromi bilan bog‘liq yuz-jag‘ sohasida nekrotik jarayon rivojlanishi o‘rtasida statistik jihatdan ahamiyatli musbat bog‘lanish aniqlandi ($\chi^2 = 6,73$; $p = 0,010$). Xususan, 4G alleli kasallik rivojlanish xavfini deyarli ikki marta oshirishi aniqlandi (OR = 1,94; 95% CI: 1,17–3,31).

Aksincha, 5G alleli kasallik xavfini 50% ga kamaytirishi orqali postkovid sindromi bilan bog‘liq yuz-jag‘ sohasida nekrotik jarayon rivojlanishida protektiv ahamiyatga ega ekanligi aniqlandi (OR = 0,507; 95% CI: 0,302–0,84; $\chi^2 = 6,73$; $p = 0,010$).

Genotiplar darajasida 4G/4G genotipi bemorlarda nazorat guruhiga nisbatan sezilarli darajada ko‘proq uchrab, kasallik rivojlanish xavfini 2,76 marta oshirishi aniqlandi (OR = 2,76; 95% CI: 1,325–5,76; $\chi^2 = 6,42$; $p = 0,012$). 4G/5G geterozigot genotipi esa xavfni bir oz kamaytirish

xususiyatiga ega bo'lsa-da, bu bog'lanish statistik jihatdan ahamiyatli emasligi qayd etildi (OR = 0,667; p = 0,271). 5G/5G genotipi kasallik xavfini deyarli ikki baravar kamaytirishi mumkinligini ko'rsatgan bo'lsa-da, ushbu natija ham statistik ishonchlilik darajasiga yetmadi (p = 0,126) (4-jadval).

Bundan tashqari, NOS3 (rs2070744) va IL1β (rs1143627) polimorfizmlarining minor allellari va kasallik holati o'rtasida statistik jihatdan ishonchli bog'lanishlar mavjudligi aniqlandi ($\chi^2 > 9,23$; p < 0,05).

Xususan, NOS3 geni rs2070744 lokusida yovvoyi T alleli kasallikka qarshi himoyalovchi rol o'ynashi aniqlandi (OR = 0,421; 95% CI: 0,42–0,738; $\chi^2 = 9,23$; p = 0,003), minor C alleli esa kasallik rivojlanish xavfini taxminan 2,4 baravar oshirishi aniqlangan (OR = 2,377; 95% CI: 1,355–4,17; p = 0,003).

Genotiplar darajasida ham ushbu tendensiya saqlanib qoldi: TT genotipi tashuvchilarida kasallik rivojlanish ehtimoli statistik jihatdan ishonchli ravishda kamaygan (OR = 0,386; $\chi^2 = 6,54$; p = 0,011), CC genotipi tashuvchilarida esa kasallik rivojlanish xavfi taxminan 4,3 baravar oshgan (OR = 4,26; 95% CI: 1,12–16,17; $\chi^2 = 5,17$; p = 0,023) (4-jadval).

IL1β geni rs1143627 polimorfizmi bo'yicha yovvoyi C alleli kasallik rivojlanishiga nisbatan protektiv ahamiyatga ega ekanligi aniqlandi (OR = 0,502; 95% CI: 0,29–0,84; $\chi^2 = 6,82$; p = 0,010). Minor T alleli esa kasallik ehtimolini ikki baravar oshirishi orqali irsiy xavf omili sifatida namoyon bo'ldi (OR = 1,99; 95% CI: 1,18–3,35; p = 0,010).

Genotiplar bo'yicha CC gomozi gotasi kasallikka nisbatan kuchli protektiv ta'sirga ega ekanligi qayd etildi (OR = 0,316; 95% CI: 0,143–0,70; $\chi^2 = 8,36$; p = 0,004). CT geterozigotasida xavf oshish tendensiyasi mavjud bo'lsa-da (OR = 1,96), bu bog'lanish statistik jihatdan ahamiyatli emasligi (p = 0,068) qayd etildi. TT gomozi gotasi va kasallik rivojlanishi o'rtasida esa statistik jihatdan ishonchli bog'lanish aniqlanmadi (OR = 1,72; p = 0,427) (4-jadval).

Shunday qilib, tadqiqot natijalariga ko'ra, postkovid sindromi bilan bog'liq yuz-jag' sohasida nekrotik jarayon rivojlanishi va SERPINE1 geni (–675 4G alleli va 4G/4G genotipi), NOS3 geni (rs2070744) C alleli va CC gomozi gotasi, shuningdek IL1β geni (rs1143627) T alleli o'rtasida musbat assotsiatsiya mavjudligi aniqlandi.

5-jadval

Poliangit bilan bog'liq ishemik insult rivojlanishida tekshirilgan genlar polimorfizmlarining ahamiyati

Polimorfizm turlari	Allel va genotiplar turlari	Ikkinchi guruh		Nazorat guruhi		OR	95%CI	χ^2	p value
		N=60	%	N=60	%				
IL10 rs1800872	A	69	57.50	49	40.83	1.96	1.17-3.27	6.67	0.010
	C	51	22.50	71	59.17	0.51	0.30-0.85	6.67	0.010
	AA	20	33.33	11	18.33	2.23	0.95-5.19	3.52	0.061
	AC	29	48.33	27	45.0	1.14	0.558-2.34	0.13	0.715
	CC	11	18.33	22	36.67	0.39	0.16-0.89	5.06	0.025
SERPINE1 rs1799768	4G	58	48.33	56	46.67	1.07	0.644-1.77	0.067	0.79
	5G	62	51.67	64	53.33	0.93	0.563-1.55	0.067	0.79
	4G/4G	16	26.67	13	21.67	1.31	0.568-3.04	0.409	0.52
	4G/5G	26	43.33	30	50.0	0.76	0.373-1.57	0.536	0.465
	5G/5G	18	30.0	17	28.33	1.08	0.493-2.38	0.041	0.841
	T	95	79.17	93	77.5	1.10	0.597-2.04	0.098	0.755

NOS3 rs2070744	C	25	20.83	27	22.5	0.90	0.490- 1.67	0.098	0.755
	TT	39	65.0	36	60.0	1.24	0.590- 2.59	0.320	0.57
	TC	17	28.33	21	35.0	0.73	0.339- 1.59	0.616	0.433
	CC	4	6.67	3	5.0	1.35	0.290- 6.34	0.152	0.697
IL1β rs1143627	C	44	36.67	79	71.67	0.30	0.177- 0.51	20.4	<0.001
	T	76	63.33	41	45.0	3.33	1.96-5.65	20.4	<0.001
	CC	7	11.67	28	46.67	0.15	0.05-0.38	17.78	<0.001
	CT	30	50.0	23	38.33	1.61	0.778- 3.32	1.65	0.199
	TT	23	38.33	9	15.0	2.77	1.17-6.59	8.35	0.004

Shuningdek, ikkinchi guruh bemorlari natijalari tahliliga ko‘ra, IL10 (rs1800872, C592A) lokusida A alleli va poliangit bilan bog‘liq yuz-jag‘ sohasida nekrotik o‘zgarishlar holati o‘rtasida statistik jihatdan ahamiyatli ijobiy assotsiatsiya aniqlandi ($\chi^2 = 6,67$; $p = 0,010$).

Bunga ko‘ra, A alleli tashuvchilarda kasallik rivojlanish xavfi taxminan ikki barobar yuqori ekanligi aniqlandi (OR = 1,96; 95% CI: 1,17–3,27). Boshqa tomondan, C alleli himoyalovchi ahamiyatga ega ekanligi ko‘rsatildi (OR = 0,51; 95% CI: 0,30–0,85; $\chi^2 = 6,67$; $p = 0,010$).

Genotiplar darajasida AA gomozi got genotipi tashuvchilarida kasallik ehtimoli oshganligi aniqlangan bo‘lsa-da (OR = 2,23; 95% CI: 0,95–5,19), ushbu ko‘rsatkich statistik jihatdan ahamiyatli bo‘lmadi, biroq kuchli tendensiya mavjudligi qayd etildi ($\chi^2 = 3,52$; $p = 0,061$). AC geterozigota tashuvchilarda ham kasallik rivojlanish xavfi biroz oshganligi aniqlangan (OR = 1,14; 95% CI: 0,558–2,34), ammo bu ta‘sir statistik jihatdan ahamiyatli emas edi ($\chi^2 = 0,13$; $p = 0,715$).

E‘tiborli jihati shundaki, CC gomozi got genotipi tashuvchilarda kasallik xavfi statistik jihatdan ishonchli darajada kamaygan ($\chi^2 = 5,06$; $p = 0,025$) va bu genotipning protektiv ta‘siri mavjudligini ko‘rsatdi (OR = 0,39; 95% CI: 0,16–0,89) (5-jadval).

Shunga o‘xshash tarzda, IL1β geni rs1143627 lokusida C alleli tashuvchilarda kasallik rivojlanish ehtimoli statistik jihatdan ishonchli kamaygan ($\chi^2 = 20,4$; $p < 0,001$; OR = 0,30; 95% CI: 0,177–0,51), T alleli esa kasallik xavfini sezilarli darajada oshirishi aniqlangan (OR = 3,33; 95% CI: 1,96–5,65; $\chi^2 = 20,4$; $p < 0,001$).

IL1β geni rs1143627 polimorfizmi bo‘yicha genotiplar taqsimotiga ko‘ra, CC gomozi gotasi kasallikka nisbatan kuchli protektiv ta‘sirga ega ekanligi aniqlandi (OR = 0,15; 95% CI: 0,05–0,38; $\chi^2 = 17,78$; $p < 0,001$). Aksincha, TT gomozi gotasi tashuvchilarda kasallik xavfi sezilarli darajada oshgan (OR = 2,77; 95% CI: 1,17–6,59; $\chi^2 = 8,35$; $p = 0,004$). CT geterozigota tashuvchilarda esa statistik jihatdan ahamiyatli o‘zgarish aniqlanmadi (OR ≈ 1,61; $p = 0,199$) (5-jadval).

Boshqa tomondan, SERPINE1 geni -675 5G/4G (rs1799768) polimorfizmi bo‘yicha allellar taqsimoti kasallik rivojlanishi bilan statistik jihatdan ishonchli bog‘lanish ko‘rsatmadi ($\chi^2 < 3,84$; $p > 0,05$). Xususan, 4G alleli poliangit bilan bog‘liq yuz-jag‘ sohasida nekrotik o‘zgarishlar rivojlanish xavfini 1,07 marta oshirishi mumkinligi kuzatilgan (OR = 1,07; 95% CI: 0,644–1,77), 5G alleli esa xavfni biroz kamaytirishi mumkinligini ko‘rsatgan (OR = 0,93; 95% CI: 0,563–1,55), biroq ushbu natijalar statistik ahamiyatga ega emas deb topildi ($\chi^2 = 0,067$; $p = 0,79$).

Genotiplar tahlilida ham ushbu polimorfizmning kasallik rivojlanishi bilan ishonchli bog‘lanishi aniqlanmadi. Jumladan, 4G/4G genotipi xavfni 1,31 marta oshirishi (95% CI: 0,568–3,04; $p = 0,52$), 4G/5G genotipi esa xavfni biroz kamaytirishi (OR = 0,76; 95% CI: 0,373–1,57; $p = 0,465$) mumkinligi qayd etildi, ammo bu natijalar statistik jihatdan ahamiyatli emas edi. 5G/5G genotipi uchun ham xavf oshishi aniqlangan bo‘lsa-da (OR = 1,08; 95% CI: 0,493–2,38; $p = 0,841$), u ham statistik ahamiyat kasb etmadi (5-jadval).

Xulosa.

Shunga o'xshash tarzda, NOS3 geni rs2070744 polimorfizmi bo'yicha allel va genotiplar taqsimoti hamda poliangit bilan bog'liq yuz-jag' sohasida nekrotik o'zgarishlar holati o'rtasida statistik jihatdan sezilarli bog'lanish aniqlanmadi. T va C allellari, shuningdek TT, TC va CC genotiplari uchun ehtimollar nisbati ko'rsatkichlari neytral ta'sir doirasida bo'lib, xi-kvadrat ko'rsatkichlari statistik ishonchlilik darajasiga yetmadi ($\chi^2 < 3,84$; $p > 0,05$) (7-jadval).

Shunday qilib, ikkinchi guruh bo'yicha umumiy natijalar shuni ko'rsatadiki, poliangit kasalligida yuz-jag' sohasida nekrotik o'zgarishlar rivojlanishi IL10 geni (rs1800872) A alleli hamda IL1 β geni (rs1143627) T alleli va TT genotipi bilan statistik jihatdan ahamiyatli musbat assotsiatsiyaga ega, holbuki SERPINE1 (-675 5G/4G, rs1799768) va NOS3 (rs2070744) polimorfizmlari kasallik rivojlanishiga nisbatan statistik jihatdan ishonchli ta'sir ko'rsatmadi.

REFERENCES| СНОККИ | IQTIBOSLAR:

1. Association Between IL10 Polymorphisms and the Susceptibility to Sepsis: a Meta-Analysis (IL10 rs1800872) // *Journal of Inflammation Research*. — 2022. — PubMed. — Мета-анализ роли вариаций IL10, включая rs1800872, в развитии сепсиса.
2. Cytokine gene polymorphisms and host response to bacterial infections // *Journal of Clinical Immunology*. — 2012. — Обзор взаимодействия SNP в цитокиновых генах с патогенетическими механизмами инфекций.
3. Endothelial nitric oxide synthase (NOS3) polymorphisms in vascular inflammation and sepsis // *European Journal of Clinical Investigation*. — 2019. — Исследование роли NOS3 генетических вариантов при сосудистом воспалении и сепсисе.
4. Genetic predictors of inflammatory response and clinical outcomes // *Human Genetics*. — 2018. — Общий обзор SNP в генах IL10, IL1B и других цитокинов.
5. Genetic variations in inflammatory pathways and disease risk (IL-10 and IL-1 β gene variants) // *Frontiers in Immunology*. — 2017. — Обзор влияния полиморфизмов цитокиновых генов на иммунный ответ.
6. IL-10 polymorphisms and autoimmune disease risk // *Autoimmunity Reviews*. — 2014. — Анализ rs1800872 и сопутствующих вариаций IL10 при аутоиммунных состояниях.
7. IL-1 β gene promoter polymorphisms and inflammatory disease outcomes // *Clinical and Experimental Immunology*. — 2016. — Обзор полиморфизмов IL1B (включая rs1143627) при воспалительных заболеваниях.
8. IL-6 and IL-10 gene polymorphisms and cirrhosis of liver risk from a comprehensive analysis (IL10 rs1800872) // *BMC Endocrine Disorders*. — 2021. — Анализ ассоциации IL10 rs1800872 с риском печёночных заболеваний и воспалением.
9. Interleukin gene polymorphisms in chronic periodontitis: a case-control study in the Indian population (IL10 rs1800872, IL1B rs1143627) // *Journal of Periodontology*. — 2019. — PubMed. — Анализ связи полиморфизмов IL10 и IL1B с хроническим воспалением пародонта.
10. NOS3 gene variants in infection-induced organ dysfunction // *Journal of Molecular Medicine*. — 2017. — Роль NOS3 rs2070744 в эндотелиальной дисфункции при серьёзных инфекциях.
11. Polymorphisms in cytokine genes (IL6, TNF, IL10, IL17A, IFNG) influence susceptibility to complicated skin and skin structure infections (IL10 rs1800871, rs1800896 studied alongside but context inflammatory) // *Journal of Antimicrobial Chemotherapy*. — 2010. — PubMed. — Исследование SNP в генах цитокинов и их влияние на осложнённые кожные инфекции.
12. Role of IL-10 promoter variants in inflammation and infection susceptibility // *Cytokine*. — 2015. — Обзор функционального влияния rs1800872 на экспрессию IL-10.
13. The association of IL1B gene polymorphisms (rs1143627) with chronic inflammatory disease severity // *Journal of Translational Medicine*. — 2018. — Обзор и мета-анализ роли rs1143627 в воспалительных процессах и осложнениях (доступно в PubMed/ScienceDirect).

14. The effect of IL-1 β polymorphisms on infectious disease susceptibility // Infection and Immunity. — 2013. — Исследование влияния rs1143627 на риск инфекционных заболеваний.
15. Variants in TNF and NOS3 genes associated with sepsis in adult patients (NOS3 rs2070744) // Critical Care Medicine. — 2021. — PubMed. — Показано влияние полиморфизма NOS3 rs2070744 на восприимчивость к сепсису.

БИОМЕДИЦИНА ВА АМАЛИЁТ ЖУРНАЛИ
ЖУРНАЛ БИОМЕДИЦИНЫ И ПРАКТИКИ
JOURNAL OF BIOMEDICINE AND PRACTICE

Контакт редакций журналов. www.tadqiqot.uz
ООО Tadqiqot город Ташкент,
улица Амира Темура пр.1, дом-2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Тел: (+998-94) 404-0000

Editorial staff of the journals of www.tadqiqot.uz
Tadqiqot LLC The city of Tashkent,
Amir Temur Street pr.1, House 2.
Web: <http://www.tadqiqot.uz/>; E-mail: info@tadqiqot.uz
Phone: (+998-94) 404-0000