

Impact Factor: 4.9

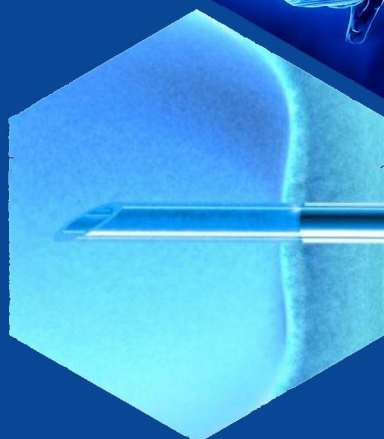
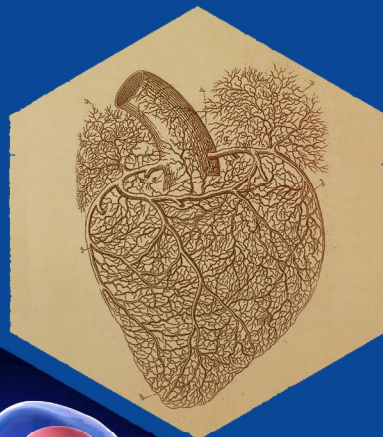
ISSN: 2181-0664

DOI: 10.26739/2181-0664

tadqiqot.uz/uzbek-medikal-journal

# UZBEK MEDICAL JOURNAL

Volume 2, Issue 5



2021

**Бош муҳаррир:**  
**Главный редактор:**  
**Chief Editor:**

**Мадазимов Мадамин Муминович**  
Ректор Андижанского Государственного  
медицинского института, д.м.н., профессор  
кафедры факультетской и госпитальной  
хирургии

**Тахририят раиси:**  
**Председатель редакционной коллегии:**  
**Chairman of the editorial Board:**

**Алексеев Андрей Анатольевич**  
Директор ожогового центра НМИЦ хирургии  
им. В.Вишневого, главный комбустиолог  
Министерства здравоохранения России, д.м.н.,  
профессор.

**Бош муҳаррир ўринбосари:**  
**Заместитель главного редактора:**  
**Deputy Chief Editor:**

**Салахитдинов Камалиддин Зухриддинович**  
доцент, д.м.н. кафедры факультетской и  
госпитальной хирургии Андижанского  
Государственного медицинского института

**Бош муҳаррир ўринбосари:**  
**Заместитель главного редактора:**  
**Deputy Chief Editor:**

**Хегай Любовь Николаевна**  
доцент, к.м.н., начальник отдела по координации  
деятельности грантов Межвузовской научно-  
исследовательской лаборатории Ташкентской  
медицинской академии

**Маъсул котиб:**  
**Ответственный секретарь:**  
**Executive Secretary:**

**Досина Маргарита Олеговна**  
в.н.с. ГНУ "Институт физиологии Национальной  
академии наук Беларуси", к.б.н., председатель  
Совета молодых ученых Отделения медицинских  
наук НАН Беларуси

**Маъсул котиб:**  
**Ответственный секретарь:**  
**Executive Secretary:**

**Ниязова Зебинисо Анваровна**  
базовый докторант кафедры офтальмологии,  
детской офтальмологии Ташкентского  
педиатрического медицинского института

**Ўзбек тиббиёт журнали тахририй маслахат кенгаши**  
**редакционный совет Узбекский медицинский журнал**  
**Editorial Board of the Uzbek medical journal**

**Хужамбердиев Мамазоир Ахмедович**  
д.м.н., профессор кафедры госпитальной терапии Андижанского  
Государственного медицинского института

**Привалова Ирина Леонидовна**  
д.б.н., профессор кафедры нормальной физиологии Курского государственного медицинского университета,  
заведующая лабораторией физиологии висцеральных систем НИИ физиологии (Курск)

**Гаврилова Елена Анатольевна**  
д.м.н., профессор, заведующая кафедрой лечебной физкультуры и спортивной медицины Северо-западного  
государственного медицинского университета им. И.И. Мечникова (Санкт-Петербург)

**Чурганов Олег Анатольевич**  
д.п.н., профессор кафедры ЛФК и спортивной медицины Северо-Западного государственного  
медицинского университета им. И.И. Мечникова (Санкт-Петербург)

**Салахитдинов Зухриддин Салахитдинович**  
д.м.н., профессор, заведующий кафедрой ВОП №1, Андижанского государственного медицинского института

**Рябчиков Денис Анатольевич**  
д.м.н., в.н.с. онкологического отделения хирургических методов лечения ФГБУ "НМИЦ  
онкологии им. Н.Н. Блохина" Минздрава России

**Гулямов Суръат Саидвалиевич**  
д.м.н., профессор кафедры оториноларингологии, детской оториноларингологии, стоматологии  
Ташкентского педиатрического медицинского института

**Тереза Магалхайз**  
профессор, заведующая кафедрой Судебной медицины государственного университета Порту (Португалия)

**Юлдашев Илхом Рузиевич**  
д.м.н., профессор, заведующий кафедрой Аллергологии, иммунологии, микробиологии  
Ташкентского педиатрического медицинского института

**Хамраев Абдурашид Журакулович**  
д.м.н., профессор кафедры госпитальной детской хирургии, Ташкентского педиатрического медицинского института

#### Редакционная коллегия:

**Эрматов Низом Жумакулович**  
д.м.н., доцент, заведующий кафедрой гигиены детей и подростков и гигиены питания Ташкентской медицинской академии

**Рузиев Шерзод Ибодуллаевич**  
д.м.н., доцент кафедры судебной медицины и медицинского права Ташкентского педиатрического медицинского института

**Бабич Светлана Михайловна**  
доцент, заведующая кафедрой социальной гигиены Андижанского государственного медицинского института

**Сабирова Рихси Абдукадировна**  
д.м.н., профессор кафедры медицинской и биологической химии Ташкентской медицинской академии

**Цеомашко Наталья Евгеньевна**  
д.б.н, с.н.с., заведующая отделом медико-генетических исследований МНИЛ Ташкентской медицинской академии

**Хамраева Лола Салимовна**  
доцент, к.м.н. кафедры офтальмологии, детской офтальмологии Ташкентского педиатрического медицинского института

**Усманходжаева Адиба Амирсайдовна**  
доцент, к.м.н., заведующая кафедрой Народной медицины, реабилитологии и физической культуры Ташкентской медицинской академии

**Шарипова Фарида Камилевна**  
к.м.н., доцент кафедры психиатрии, наркологии и детской психиатрии, медицинской психологии, психотерапии Ташкентского педиатрического медицинского института

**Бузруков Батир Тулкунович**  
д.м.н., профессор, заведующий кафедрой офтальмологии, детской офтальмологии Ташкентского педиатрического медицинского института

**Туйчиев Галибжан Урмонжонович**  
к.м.н., доцент, заведующий кафедрой детской хирургии, детской анестезиологии-реаниматологии с курсом офтальмологии и стоматологии факультета усовершенствования и переподготовки врачей АГМИ

**Маматхужаева Гулнора Нажмитдиновна**  
доцент, к.м.н. кафедры Офтальмологии Андижанского Государственного медицинского института

**Каримова Зиёда Кушбаевна**  
доцент, к.м.н. кафедры Аллергологии, клинической иммунологии, микробиологии Ташкентского педиатрического медицинского института

**Саидходжаева Саида Набиевна**  
доцент, Phd кафедры неврологии, детской неврологии и медицинской генетики Ташкентского педиатрического медицинского института

**Зуфарова Зухра Хабибуллаевна**  
доцент, к.ф.н. кафедры промышленной технологии лекарственных средств Ташкентского фармацевтического института

**Алимова Дурдона Дильмуратовна**  
PhD кафедры оториноларингологии, детской оториноларингологии, детской стоматологии Ташкентского педиатрического медицинского института

Page Maker | Верстка | Сахифаловчи: Хуршид Мирзахмедов

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

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

## МУНДАРИЖА / СОДЕРЖАНИЕ / CONTENT


<b>1. Tashpulatova G. A., Krasavin A. N.</b> HYGIENIC ASSESSMENT OF ELECTROMAGNETIC RADIATION LEVELS OF BASE STATIONS, INSTALLED ON THE ROOFS OF BUILDINGS AND THE TERRITORY OF LAND PLOTS IN TASHKENT.....	5
<b>2. Akhmedov K. H., Ergashov M. A., Khudoyberdiev S. E., Imamov E. N.</b> STUDY OF THE ACTIVITY OF SOME RAT SERUM ENZYMES IN THE DYNAMICS OF EXTRAHEPATIC CHOLESTASIS.....	12
<b>3. Akhmedov Latif Abbosovich</b> THE COURSE OF MYOCARDIAL INFARCTION IN PATIENTS OF YOUNG AGE WITH ARTERIAL HYPERTENSION.....	17
<b>4. Ismoilova M. Z., Tuksanova D. I.</b> MICROBIOLOGICAL RECOGNITION OF ANTIBODIES TO ANTIGENS OF MICROORGANISMS IN WOMEN WITH INFLAMMATORY DISEASES OF THE GENITAL.....	20
<b>5. Azamkulova N.O., Irgasheva S.U.</b> CLINICAL COURSE OF PERIMENOPAUSAL PERIOD IN WOMEN WITH HYPERANDROGENISM SYNDROME.....	25
<b>6. Avezova S.M.</b> METHODS FOR TREATMENT OF CHRONIC GENERALIZED PERIODONTITIS (LITERATURE REVIEW).....	30
<b>7. Babadjanova Sh.U., Ergasheva M.Y.</b> MORPHOGENETIC MECHANISMS OF PATHOMORPHOLOGICAL CHANGES IN THE LIVER IN CHRONIC DRUG POISONING.....	34
<b>8. Kamilov Kh.M., Kasimova M.S., Khamraeva G.Kh., Rizaeva M.A.</b> INFECTIOUS AND INFLAMMATORY COMPLICATIONS IN OPHTHALMOLOGY AMID COVID-19.....	40
<b>9. Rakhmatov K.R.</b> RADIOFREQUENCY ABLATION OF FACET NERVES IN THE TREATMENT OF PAIN SYNDROMES IN DEGENERATIVE DISEASES OF THE SPINE.....	45
<b>10. Alimov A.P., Yusupov S.Y., Khakimov Sh.K., Muminov A.Sh., Akhmedov Sh.Sh.</b> MODERN OSTEOSYNTHESIS TECHNIQUES IN SHOULDER BONE PROXIMAL FRACTURES.....	49

# ЎЗБЕК ТИББИЁТ ЖУРНАЛИ УЗБЕКСКИЙ МЕДИЦИНСКИЙ ЖУРНАЛ UZBEK MEDICAL JOURNAL

**Rakhmatov K.R.**

Bukhara State Medical Institute  
Ministry of Public Health of the  
Republic of Uzbekistan, Bukhara city  
e-mail: dr\_karim\_neyroxirurg@mail.ru

## RADIOFREQUENCY ABLATION OF FACET NERVES IN THE TREATMENT OF PAIN SYNDROMES IN DEGENERATIVE DISEASES OF THE SPINE

 <http://dx.doi.org/10.26739/2181-0664-2021-5-9>

### ABSTRACT

The first results of radiofrequency ablation of facet nerves and its effectiveness in eliminating local chronic back pain and reflected pain vertebrogenic syndromes were studied in 122 patients. The best results were obtained in patients with spondyloarthrosis with a positive test blockade of the facet nerves. Spondyloarthrosis is the most common condition presenting as neck pain, although it usually appears as an incidental finding in older asymptomatic subjects in cervical radiographs.

**Keywords:** back pain, reflex, pain, syndrome, facet nerve, high-frequency, exposure, spondyloarthrosis, syndrome, radiofrequency ablation.

**Рахматов К.Р.**

Бухарский государственный медицинский  
Институт Министерство здравоохранения  
Республики Узбекистан, город Бухара

## РАДИОЧАСТОТНАЯ АБЛЯЦИЯ ФАСЕТОЧНЫХ НЕРВОВ В ЛЕЧЕНИИ БОЛЕВЫХ СИНДРОМОВ ПРИ ДЕГЕНЕРАТИВНЫХ ЗАБОЛЕВАНИЯХ

### АННОТАЦИЯ

Первые результаты радиочастотной абляции фасеточных нервов и ее эффективность в устранении локальной хронической боли в спине и отраженных болевых вертеброгенных синдромов были изучены у 122 пациентов. Наилучшие результаты были получены у пациентов со спондилоартрозом при положительном тесте блокады фасеточных нервов. Спондилоартроз - наиболее частое заболевание, проявляющееся в виде боли в шее, хотя на рентгенограммах шейки матки обычно появляется как случайная находка у бессимптомных субъектов пожилого возраста.

**Ключевые слова:** боль в спине, рефлекс, боль, синдром, фасеточный нерв, высокочастотный, воздействие, спондилоартроз, синдром, радиочастотная абляция, высокочастотное воздействие.

**Raxmatov K.R.**Buxoro davlat tibbiyot instituti  
O'zbekiston Respublikasi Sog'liqni  
saqlash vazirligi, Buxoro shahri**ORQA MIYA DEGENERATIV KASALLIKLARIDA OG'RIQ SINDROMLARINI  
DAVOLASHDA FASET NERVLARINING RADIOTO'LQINLI ABLATSIYASI****ANNOTATSIYA**

Faset nervlarining radiochastota ablatsiyasining birinchi natijalari va uning mahalliy surunkali bel og'rig'ini bartaraf etish samaradorligi va 122 bemorlarida aks ettirilgan og'riq vertebrogenik sindromlar o'rganildi. Eng yaxshi natijalar spondiloartrozli bemorlarda faset nervlarining blokadasini ijobiy sinovidan olingan. Bo'g'im nerv tarmoqlari radiochastota ablatsiyasining (bachadon, ko'krak va bel darajalarida) surunkali bel og'rig'i, shuningdek, bemorlarda spondiloartroz bilan bog'liq refleks og'riq sindromlari yuqori samarali va xavfsiz usuli hisoblanib, davolashning samaradorligi tashxisning to'g'riligiga va ayniqsa, "test blokadasidan" ijobiy javob berishga bevosita bog'liq. Spondiloartroz bo'yin og'rig'i sifatida namoyon bo'ladigan eng keng tarqalgan holatdir, garchi u odatda bachadon bo'yni rentgenografiyasida asemptomatik yoshdagi bemorlarda tasodifiy topilma sifatida namoyon bo'ladi.

**Kalit so'zlar:** bel og'rig'i, refleks, og'riq, sindrom, faset asab, yuqori chastotali, ta'sir, spondiloartroz, sindrom, yuqori chastotali ta'sir.

**Relevance**

In the USA and Western Europe, the prevalence of back pain is 40–80%, and the annual incidence is 5%. Back pain is the second most frequent reason for visiting a doctor and the third most frequent reason for hospitalization after respiratory diseases [1,4]. Temporary disability accounts for 40% of neurological diseases [2,6]. In recent decades, it has been proven that the main cause of chronic back pain and reflected reflex syndromes is degenerative-dystrophic changes in the structures of the spinal motion segment. This primarily applies to the intervertebral discs and joints of the vertebrae. Most researchers have not identified specific clinical manifestations of spondyloarthrosis, which is probably why the prevalence rates of spondyloarthrosis vary widely from 10% to 75% [3,4]. Many studies have been devoted to the study of "facet syndrome" [2,6,7,9], but they began to speak of it, especially with the introduction of minimally invasive surgery techniques into clinical practice [5, 8].

At present, the ablation technique of deeply located branches of the facet nerves, which are a link in the pathological chain of chronic pain syndrome, is widely used abroad. Radiofrequency ablation (RFA) of the facet nerves allows you to break the pathological chain of pain impulses and eliminate chronic vertebrogenic pain syndrome.

**The study aimed** to study the first results of radiofrequency ablation of facet nerves and its effectiveness in eliminating local chronic back pain and reflected pain vertebrogenic syndromes.

**Material and methods**

Since 2017, the Department of Neurosurgery of the Bukhara Regional Multidisciplinary Medical Center has been conducting clinical research on the topic of the thesis "Treatment of the "operated spine "syndrome of the lumbosacral area using radiofrequency ablation.

This work included 122 patients (82 women and 40 men) who were treated at the Bukhara Regional Multidisciplinary Medical Center in the period 2017-2018, who, after a clinical and instrumental examination, were diagnosed with degeneration of lumbar or cervical discs with spondyloarthrosis of the spine and RFA was performed.

All patients underwent a complete clinical examination, including laboratory, functional, and radiological research methods (electroneuromyography, magnetic resonance imaging and multispiral computed tomography).

The study group included only those patients who did not have radicular compression and spinal cord disorders. These patients had chronic back pain of the type of cervicalgia and lumbodynia. The

severity of pain syndrome was assessed using the visual analogue scale and the Nurick scale (NS): 1st level - complete regression of neurological symptoms, 2nd - improvement; 3rd - a state without changes; 4th - worsening neurological status.

The "severity" of pain was assessed using a visual analog scale of pain (VAS). The VAS is a straight line 10 cm long. The patient is asked to make a mark on the line corresponding to the intensity of the pain he is experiencing. The line's starting point denotes the absence of pain - 0, followed by mild, moderate, strong, final, unbearable pain - 10. The distance between the left end of the line and the mark made is measured in millimeters. The methods of variation statistics have processed the digital material.

### **Results and its discussion**

The immediate results of RFA were studied in 122 patients with degenerative processes of intervertebral discs and spondyloarthritis. All 122 patients in the clinical picture had reflex-pain reflected vertebrogenic syndromes and local vertebrogenic pain. We did not find any specific symptoms of spondyloarthritis. The main indication for RFA was a positive result ( $\geq 50\%$ ) of the facet joint block test (3-4 joints on 2 sides). The final diagnosis was clarified after test blockades at the lesion level with a solution of lidocaine 2% - 1 ml.

Techniques for the destruction of nerve tissue can be as follows: cryocoagulation, surgical, chemical, thermal, radiofrequency destruction and with the use of ionizing radiation. Radiofrequency destruction of these methods is the safest and most predictable in effect.

Patients for this operation were selected according to the following criteria: back pain for more than 6 months; pain worsens after active extension, prolonged sitting or standing; deep pain on palpation in the projection of the intervertebral joints; absence of neurological abnormalities; not a persistent effect or its absence after conservative therapy. In addition, the selection criteria for patients included a positive test block, no drug dependence, addiction to sedatives, alcohol, and the absence of social and psychological factors dominating pain perception.

Contraindications to RFA were considered: sequestration and extrusion of disc herniation; infectious diseases; tumor process in the area of the proposed intervention on the vertebral motor segment; spinal cord injury; increasing neurological symptoms, spondylolisthesis of more than 2 degrees; stenosis with compression of neurovascular formations.

Material and technical support for the methodology:

1. High-frequency generator ("Cosman").
2. Mobile X-ray diagnostic unit with a C-shaped arc, monitor and image intensifier: GE electronics and (or) other similar units.
3. X-ray-permeable operating table.
4. Electrically insulated needles with a working tip of 2-3 mm.

Radiofrequency denervation is carried out using an electrode that supplies a current to the working tip of the needle, brought to the "target point". High-frequency current at the tip of the needle causes local electrothermal destruction (ablation) in the area up to 2 mm, which leads to the interruption of the chain of pain impulses along the median branch of the articular nerve and the branches of the Lyushka nerve.

The second (reference) electrode is fixed anywhere on the body (ground electrode).

Using this technology, it is possible to ablate several affected segments of the spine simultaneously. To perform radiofrequency ablation, the patient is in a prone position. The procedure is performed under fluoroscopic control using an image intensifier monitor. The area of the operation is treated with antiseptics according to the standard technique. Anesthesia is performed with an injection of a local anesthetic. At the cervical level, the needle-electrode is brought to the "target" point on the articular process for ablation. At the thoracic level, the needle is passed into the junction of the transverse process with the joint. At the lumbar level - at the junction of the transverse process and the facet joint.

Ablation is carried out alternately at three to four points from 2 sides.

Postoperative management of patients



The patient is activated 30-60 minutes after ablation. It is necessary to observe the protective orthopedic regime for 5-7 days. Fixation of the patient's neck or lower back in the postoperative period is carried out according to the doctor's prescription, based on the specific clinical picture.

Prevention of possible complications: infectious (antibiotics 1-2 days); allergic reactions (glucocorticoids, antihistamines).

We analyzed our experience with RFA of facet nerves in treating spondyloarthritis and degenerative diseases of the spine in 122 patients aged 22 to 72 years. RFA was performed in 39 (32%) patients on the cervical, 6 (5%) patients on the thoracic, and 78 (64%) patients on the lumbar spine. All patients in the preoperative period suffered from chronic cervicgia (thoracalgia or lumbodynia) and reflex pain syndromes. The maximum follow-up period in the postoperative period was 2 years. When studying the results after RFA at the cervical level: in 30 (77%) patients, significant regression of pain in the neck and zones of reflected reflex pain syndromes (level I) was obtained, in 9 (23%) patients level II was achieved (according to NS).

In 72 (92.3%) (level I according to NS) out of 78 patients after RFA at the lumbar level, a good result was obtained in the form of regression of aching local pain in the back and zones of reflected reflex-pain syndromes. In 6 (7.7%) patients, level II was reached (according to NS). A patient after RFA in the thoracic spine received level I according to NS. Also, the intensity of pain syndrome before surgery on a ten-point VAS scale averaged 7.25 points. After denervation, elimination or significant regression of pain syndrome was achieved in most cases; pain syndrome regressed to an average of 1 point, which fully correlates with the results obtained by other researchers [11, 16]. There were no complications in the postoperative period in patients.

### Conclusions

1. Radiofrequency ablation of articular nerve branches is a highly effective and safe method in eliminating chronic back pain (at the cervical, thoracic and lumbar levels) and reflex pain syndromes associated with spondyloarthritis in patients.

2. The effectiveness of treatment is directly related to the correctness of the diagnosis and, especially, a positive response from the "test blockade".

### Reference

1. Lutsik A.A. Diagnostics and neurosurgical treatment of spinal osteochondrosis: recommendation protocol. - Novokuznetsk, 2006.-38 p.
2. Mogalles A.A., Dreval O. N., Akatov O. V., etc. Percutaneous laser denervation of arch-process joints in pain facet syndrome // Questions of neurosurgery named after N. N. Burdenko. - 2004. - No. 1.- pp. 20-25.
3. Sak L.D. Minimally invasive surgery for osteochondrosis of the spine. // Diss. MD - Novosibirsk, 2000– - 310 p.
4. Artner J., Klessinger S. Interventions on facet joints. Techniques of facet joint injection, medial branch block and radiofrequency ablation. // Radiologe. 2015. - Vol. 55(10). - P.840-846.
5. Falco F.J., Manchikanti L., Datta S. et al. Systematic review of the therapeutic effectiveness of cervical facet joint interventions: an update.// Pain Physician. - 2012. – Vol. 15(6). - P.839-868.
6. Holz S.C., Sehgal N. What is the Correlation Between Facet Joint Radiofrequency Outcome and Response to Comparative Medial Branch Blocks? // Pain Physician.- 2016.- Vol. 19(3). - P.163-172.
7. Loh J.T., Nicol A.L., Elashoff D., Ferrante F.M. Efficacy of needle-placement technique in radiofrequency ablation for treatment of lumbar facet arthropathy. // J. Pain Res.- 2015 – Vol. 7(8). - P.687-694.
8. Moussa W.M., Khedr W. Percutaneous radiofrequency facet capsule denervation as an alternative target in lumbar facet syndrome. // Clin Neurol Neurosurg. – 2016. – Vol. 5(150). - P.96-104.
9. Savits M.H., Chiu J.C., Rauschnig W. et al. The practice of minimally invasive spinal technique. — New York: AAMISS PRESS, 2005



**ЎЗБЕК ТИББИЁТ  
ЖУРНАЛИ**

---

**УЗБЕКСКИЙ МЕДИЦИНСКИЙ  
ЖУРНАЛ**

---

**UZBEK MEDICAL  
JOURNAL**

**№5 (2021)**

**Editorial staff of the journals of [www.tadqiqot.uz](http://www.tadqiqot.uz)**

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

Web: <http://www.tadqiqot.uz/>; Email: [info@tadqiqot.uz](mailto:info@tadqiqot.uz)

Phone: (+998-94) 404-0000

**Контакт редакций журналов. [www.tadqiqot.uz](http://www.tadqiqot.uz)**

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

Web: <http://www.tadqiqot.uz/>; Email: [info@tadqiqot.uz](mailto:info@tadqiqot.uz)

Тел: (+998-94) 404-0000