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UROLITHIASIS PREVENTION WITHIN A PRIMARY HEALTH CARE

© Oleg M. Mosiychuk[1], Nikolay I. Vishnyakov[2], Larisa V. Kochorova[2], Konstantin S. Klyukovkin[2], Yuri M. Ivashikin[3], Rostislav Yu. Rotar[2]

[1] City Hospital No. 15. 4 Avangardnaya str., Saint Petersburg 198205 Russian Federation
[2] Pavlov First Saint Petersburg State Medical University. 6–8 L'va Tolstogo str., Saint Petersburg 197022 Russian Federation
[3] City Consultative and Diagnostic Center No. 1. 10 Siqueiros str., Saint Petersburg 194354 Russian Federation

Contact information: Oleg M. Mosiychuk — Deputy Chief Physician for Surgery. E-mail: sekretar_spb@mail.ru
ORCID: https://orcid.org/0009-0003-7979-1086 SPIN: 5116-2894

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ABSTRACT. The state policy of Russia in the field of healthcare is aimed at the prevention of different diseases. The detection of urolithiasis is not the subject of annual medical examination of the adult population, while there are no clear requirements for preventive measures at different levels, including dispensary supervision. In order to assess the completeness of the implementation of urolithiasis prevention, reporting forms No. 12 for 2018–2022 and data from primary accounting documents of medical organizations in St. Petersburg on the volume of medical care provided under the Program of state guarantees of free medical care to citizens in 2022 were analyzed. Extensive and intensive indicators, dynamic series indicators were calculated, and the reliability of the difference in Student' indicators was assessed. In 2022, 34,972 adult patients with urolithiasis were registered in St. Petersburg, 15.3 % of them were detected for the first time. The primary incidence of urolithiasis in adults is stable (in 2018 — 1.22 per 1000 adults, in 2019 — 1.15, in 2022 — 1.21). The contribution of medical examination to the detection of urolithiasis is significantly less in 2018–2019 than in 2022 — 1.6 %, 3.1 % and 8.3 %, respectively. In 2022, 32.6 % of the total number of patients with urolithiasis were under medical supervision, in 2018 — 28.1 %. The coverage of dispensary supervision of people of working age is higher than in older age groups — 36.9 % in 2022, 34.4 % in 2018. Indirect signs of unsatisfactory prevention of urolithiasis can be considered a high level (55.4 %) of hospitalization, its low share (9.8 %) in the volume of primary health care and high (62.5 %) in the volume of emergency medical care for diseases of the urinary system. Levelling the risks of developing urgent situations based on the completeness of the implementation of preventive measures, including informing patients, is the most important link in the formation of a patient-centered urolithiasis control system.

KEYWORDS: urolithiasis, medical examination of the adult population, medical supervision, active detection of chronic diseases

РЕАЛИЗАЦИЯ ПРОФИЛАКТИКИ МОЧЕКАМЕННОЙ БОЛЕЗНИ В РАМКАХ ПЕРВИЧНОЙ МЕДИКО-САНИТАРНОЙ ПОМОЩИ

© Олег Михайлович Мосийчук[1], Николай Иванович Вишняков[2], Лариса Валерьяновна Кочорова[2], Константин Сергеевич Клюковкин[2], Юрий Михайлович Ивашикин[3], Ростислав Юрьевич Ротарь[2]

[1] Городская больница № 15. 198205, г. Санкт-Петербург, ул. Авангардная, д. 4
[2] Первый Санкт-Петербургский государственный медицинский университет имени академика И.П. Павлова. 197022, г. Санкт-Петербург, ул. Льва Толстого, д. 6–8
[3] Городской консультативно-диагностический центр № 1. 194354, г. Санкт-Петербург, ул. Сикейроса, д. 10

Контактная информация: Олег Михайлович Мосийчук — заместитель главного врача по хирургии.
E-mail: sekretar_spb@mail.ru ORCID: https://orcid.org/0009-0003-7979-1086 SPIN: 5116-2894

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РЕЗЮМЕ. Государственная политика России в сфере здравоохранения направлена на профилактику заболеваний. Выявление мочекаменной болезни не является предметом ежегодной диспансеризации взрослого населения, при этом для этого заболевания не установлены четкие требования к профилактическим мероприятиям разных уровней, в том числе к диспансерному наблюдению. В целях оценки полноты реализации профилактики мочекаменной болезни проанализированы отчетные формы № 12 за 2018–2022 годы и данные первичных учетных документов медицинских организаций Санкт-Петербурга об объемах медицинской помощи, предоставленной в рамках Программы государственных гарантий бесплатного оказания гражданам медицинской помощи в 2022 году. Рассчитаны экстенсивные и интенсивные показатели, показатели динамического ряда, проведена оценка достоверности разности показателей по Стьюденту. В 2022 году в Санкт-Петербурге зарегистрировано 34 972 взрослых больных мочекаменной болезнью, у 15,3% из них заболевание выявлено впервые. Первичная заболеваемость взрослых мочекаменной болезнью стабильна (в 2018 году — 1,22 на 1000 взрослого населения, в 2019 году — 1,15, в 2022 году — 1,21). Вклад диспансеризации в выявление мочекаменной болезни существенно меньше в 2018–2019 годах, чем в 2022 — 1,6, 3,1 и 8,3 % соответственно. В 2022 году под диспансерным наблюдением состояло 32,6 % общего числа больных мочекаменной болезнью, в 2018 году — 28,1 %. Охват диспансерным наблюдением лиц трудоспособного возраста выше, чем в старших возрастных группах, — 36,9 % в 2022 году, 34,4 % — в 2018 году. Косвенными признаками неудовлетворительной профилактики мочекаменной болезни можно считать высокий уровень (55,4 %) госпитализации, низкую ее долю (9,8 %) в объеме оказания первичной медико-санитарной помощи и высокую (62,5 %) в объеме оказания скорой медицинской помощи при заболеваниях мочевой системы. Нивелирование рисков развития ургентных ситуаций на основе полноты реализации профилактических мероприятий, в том числе информирования больных, является важнейшим звеном формирования пациентоцентричной системы контроля мочекаменной болезни.

КЛЮЧЕВЫЕ СЛОВА: мочекаменная болезнь, диспансеризация взрослого населения, диспансерное наблюдение, активное выявление хронических заболеваний

INTRODUCTION

In recent years, the state policy of the Russian Federation in the field of health care is aimed at disease prevention. Preventive programs are fully supported and developed, the coverage of citizens by health check-ups and other preventive examinations, the main task of which is the early detection of chronic non-communicable diseases [1, 2]. Urolithiasis is a widespread chronic non-communicable disease that should be diagnosed in the majority of cases before complications and emergencies develop. Although the detection of urolithiasis is not a goal of health check-ups, in certain groups of adults the disease may be suggested. It can be clarified by subsequent examination of the patient.

When carrying out the above preventive measures, the following are performed: laboratory examination of the patient, including a urinalysis, blood analysis, as well as a medical examination with the taking of anamnesis [3]. This makes it possible to identify risk factors for urolithiasis and, in some cases, its manifestation. It is also

possible to suspect urolithiasis in patients of fertile age within the framework of a two-stage examination carried out during the assessment of reproductive health of women and men, which has recently been included in the Program of State Guarantees of Free Medical Care for 2024 and for the planning period of 2025 and 2026 [4]. The relevant methodological recommendations developed by the Ministry of Health of the Russian Federation [5] provide for the identification of signs and risk factors for the development of diseases that have a negative impact on pregnancy, labor and postpartum period: examination and consultation by a gynecologist, examination and consultation of men by an urologist, laboratory examination to detect infectious agents of the pelvic organs, ultrasound examination of the pelvic organs, ultrasound examination of the prostate gland and scrotal organs. Reproductive health check-up should be carried out simultaneously with preventive examinations and health check-up of certain groups of the adult population. Performing the entire set of these examinations makes it possible to increase the frequency of suspected urolithiasis and to plan further treatment and diagnostic measures necessary for specific patients.

If urolithiasis is detected, patients should be placed under dynamic medical follow-up. Implementation of this task, as well as preventive examination and health check-up, is at the level of the primary health care organization [6–8].

The current normative legal documents in the field of health care do not currently establish uniform requirements for medical follow-up in urolithiasis [9–11]. The standard of medical care for adults with urolithiasis does not use the term “medical follow-up” [12], and individual or group preventive counseling as a preventive method is not provided. At the same time, this normative document outlines the main components of annual monitoring of the course of the disease. Moreover, the section containing recommendations on medical follow-up is absent in the clinical recommendations “Urolithiasis” [11], which does not correspond to the established standard form of such documents [13]. It is recommended to assess the quality of medical care for urolithiasis without taking into account the criterion reflecting the patient’s awareness of the most effective methods of prevention.

It should be noted that the lack of established regulatory requirements for preventive measures in urolithiasis does not reduce their importance. Timely preventive control of clinical and diagnostic parameters, as well as raising patients’ awareness of adverse risk factors for the development of the disease and its complications are the most important links in the patient-centered system of medical care, which allows, among other things, to reduce the risks of the need for its provision in emergency and urgent forms [14–17]. In this regard, the analysis of the organization of preventive measures at various levels in patients with urolithiasis seems to be very relevant for the further preparation of management decisions that reduce medical and social risks for patients in this group.

AIM

The aim of the study is to evaluate the completeness of the implementation of preventive measures in urolithiasis.

MATERIALS AND METHODS

The data of the statistical observation form No. 12 “Information about the number of diseases registered in patients living in the service area of a medical organization” of St. Petersburg medical organizations for the period 2018–2022 were analyzed. The number of adult patients with urolithiasis, including those detected for the first time, those detected during preventive measures, and those under medical follow-up was studied. Extensive and intensive indices, dynamic series indices were calculated, and the reliability of the difference between the indices was assessed by Student’s test. In addition, according to the data of primary accounting documents of medical organizations participating in the implementation of the Program of state guarantees of free medical care in St. Petersburg for 2022, the volumes of medical care provided to the adult population for diseases of the urinary system, including urolithiasis, by its types were studied: primary medical and sanitary care in outpatient and day hospital conditions, specialized medical care in 24-hour hospital conditions, emergency medical care. Extensive indicators were calculated.

RESULTS

In 2022, 34,972 patients with urolithiasis aged 18 years and older were registered in St. Petersburg, of whom 5,339 (15.3%) were detected for the first time. More than half (64.9%) of the first-time patients with urolithiasis were of the working age.

Of the first-time patients diagnosed with urolithiasis, only 441 were diagnosed during preventive measures; the indicator "contribution of health check-ups of certain groups of the adult population to the detection of urolithiasis" was 8.3%. Of all detected patients with urolithiasis, only 7.9% were of the working age.

Trends in the primary detection of urolithiasis among adults remained relatively stable in St. Petersburg during the last five-year period. In 2018 5,464 patients were diagnosed. In 2022 — 5,159 patients were diagnosed, which corresponds to the value of the primary incidence rate of adult urolithiasis of 1.22 and 1.15 per 1,000 adults, respectively ($t < 2$). However, the above activity of detection of urolithiasis in preventive measures allowed to achieve a higher indicator of "contribution of health check-up to the detection of urolithiasis" in the last years of the studied period. The value of the indicator amounted to 1.6% in 2018, 3.1% in 2019, while in 2022 it is already 8.3%. At the same time, the similar indicator for diseases of the genitourinary system as a whole did not change significantly and amounted to 3.9% in 2018 and 3.1% in 2022.

In recent years, the coverage of patients suffering from urolithiasis by medical follow-up has not been fully ensured. In 2022, 12,755 people were under medical follow-up, accounting for 32.6% of the total number of patients with urolithiasis. Five years earlier, in 2018, there were 11,528 people under medical follow-up, with a similar coverage rate of 28.1%.

In the group of patients older than working age, there is also a positive trend in the coverage of patients with urolithiasis by medical follow-up. It should be noted that in 2022, the indicator in the group of persons older than working age was 32.9% and did not statistically differ from that in the adult population as a whole ($t<2$). In previous periods, however, it was significantly lower, 24.1% in 2018 ($t=2.8$; $p <0.05$).

In the group of patients of working age, the coverage of medical follow-up of patients with urolithiasis is slightly higher than in the group of patients of older age groups. It was 36.9% in 2022 and 34.4% in 2018, but this value of the indicator also cannot be called satisfactory.

It should be noted that the value of medical follow-up coverage is currently higher among patients with newly diagnosed urolithiasis. Thus, in 2022, 42.9% of patients with urolithiasis diagnosed for the first time in St. Petersburg were taken under medical follow-up, which is statistically significantly higher than among patients who had such a diagnosis at the end of 2022 (32.6%, $t=3.6$, $p <0.05$). The trend for this indicator also shows a stable increase, which amounted to 26.9% in 2022 relative to 2018.

At the same time, despite the positive dynamics of medical follow-up coverage of patients with urolithiasis, the preventive orientation of the organization of medical care for this disease is clearly insufficient. An indirect sign confirming this can be considered a high level of hospitalization of patients with this disease, which amounted to 55.4% in St. Petersburg in 2022. At the same time, in most cases such hospitalizations are emergency hospitalizations: the share of hospitalizations for emergency indications in the studied group of patients in 2019 was 75.6%. During the COVID-19 pandemic, with restrictions on the provision of primary health care in a planned form, the proportion of emergency hospitalizations increased and reached 83.5% in 2022.

Assessment of the volume of medical care for urinary system diseases in St. Petersburg in 2022 showed that urolithiasis accounted for 16.9% of all cases (Fig. 1).

At the primary health care stage, urolithiasis accounted for only 9.8% of all cases of diseases of the urinary system. Within the framework of emergency medical care, patients with urolithiasis accounted for more than half (62.5%) of cases, which confirms the need to provide medical care for this disease in a significant part of emergency situations, when planned, including preventive measures, were not realized.

Further, such situations also lead to the need to provide significant amounts of specialized medical care: patients with urolithiasis account for 65.2% of cases of specialized hospitalizations in a 24-hour hospital and 30.1% of cases in a daily ward.

DISCUSSION

In the current conditions of primary health care organization, despite the active promotion at the level of federal health authorities of the preventive orientation of the work of medical organizations, it is difficult to detect urolithiasis, especially at the asymptomatic stage, within the framework of mass medical checkups for early detection of chronic non-communicable diseases. This is confirmed by the low level of the indicator "contribution of health check-ups to the detection of urolithiasis", which, despite some growth in recent years, remains insignificant (8.3% in 2022). The insufficient volume of diagnostic tests, which does not allow to diagnose a patient with urolithiasis within the first stage of health check-up, even with a pronounced clinical picture of the disease, can be compensated by additional examinations, which are carried out to the patient in accordance with the established indications at subsequent stages of medical care. With early detection of urolithiasis, patients can be referred in a timely manner for specialized medical care in a planned form, which will avoid urgent situations accompanied by risks to their health. Observance of these principles will provide in the future the possibility of redistributing the volume of medical care provided to patients in favor of less resource-intensive primary health care.

In recent years, there has been a general increase in the activity of medical organizations in conducting medical checkups against the background of the population's readiness to undergo them after the long restrictions in place during the spread of the new coronavirus infection COVID-19. This was accompanied by powerful stimulating actions on the part of health care authorities: the establishment of increased plans to cover the adult population with health check-ups, active information and awareness-raising work with the population on these issues. However, the increase in the volume of medical care within the framework of medical checkups should be carried out without compromising the quality of medical care. From the point of view of urolithiasis in these conditions, a full examination of the patient in accordance with the indications at the second stage of health check-up or subsequent stages of specialized medical care is of particular importance.

In the process of health check-ups of the adult population, patient complaints characteristic of urolithiasis and clinical manifestations of the disease can be identified. The inclusion in this preventive program of examination of men by a urologist and all women of reproductive age by a gynaecologist with appropriate additional examination will make it possible to expect an increase in the level of detection of patients with urolithiasis.

The procedure for medical follow-up of adults [8] determines that persons suffering from certain chronic non-communicable diseases or having a high risk of their development are included in medical follow-up. The

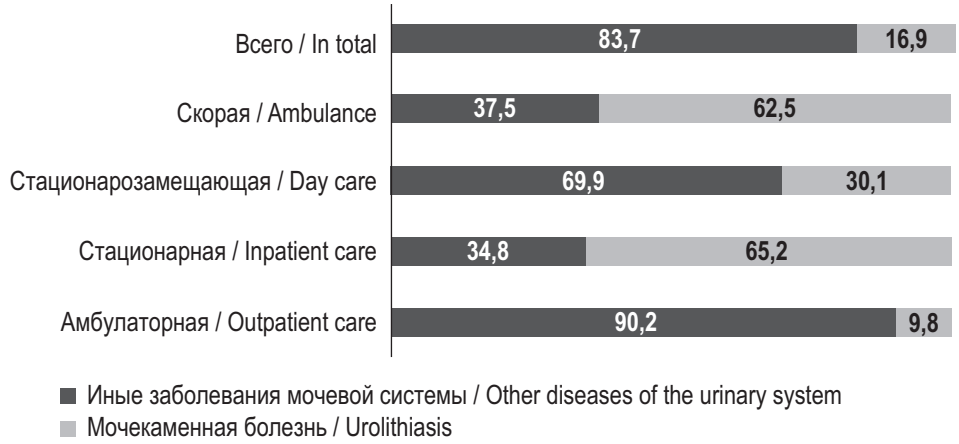

Fig. 1. Distribution of cases of medical care for urolithiasis and other diseases of the urinary system of the adult population of St. Petersburg, 2022 (%)

Рис. 1. Распределение случаев оказания медицинской помощи по поводу мочекаменной болезни и прочих заболеваний мочевой системы взрослого населения Санкт-Петербурга, 2022 год (%)

effectiveness of the organization of medical care should be confirmed by the coverage of patients with medical follow-up in the volume of at least 70% (at least 90% for patients who older than working age). It should be noted that urolithiasis is not listed among the nosological forms detected in the adult population and subject to medical follow-up in accordance with this procedure.

However, according to the "Standard of medical care for adults with urolithiasis (diagnosis, treatment, and medical follow-up)" [14], regardless of the phase of the disease, as part of treatment monitoring, patients should be consulted 3 times a year by the urologist, and, if indicated, by other specialists (nephrologist, cardiologist, rheumatologist, and other specialist physicians). Thus, patients with urolithiasis should be taken under dynamic medical follow-up.

Improvement in recent years of the organization of work of medical institutions providing primary health care to the adult population on preventive measures has had a positive impact on the involvement of patients with urolithiasis in medical follow-up. However, despite the implemented measures, the current level of coverage of patients with urolithiasis by dispensary monitoring cannot be considered satisfactory, as the target value of this indicator, which is at least 70%, has not been achieved.

Attention should be paid to the significant "failure" of the value of the indicator of medical follow-up coverage among people over working age, which was recorded in 2020 (only 12.5% were taken under medical follow-up of those who were required). This indicates insufficient attention to elderly patients during preventive measures during the pandemic of the new coronavirus infection COVID-19, first of all from the primary health care, which did not ensure the achievement of the target value of the indicator in 90%. The identified obvious shortcomings in the organization of preventive measures for patients with urolithiasis in the provision of primary health care should be taken into account in the work of medical organizations.

CONCLUSION

The organization of primary health care in terms of preventive measures for urolithiasis requires systematic improvement.

The possibility of primary detection of urolithiasis during health check-ups is a further basis for expanding the coverage of the population with these preventive measures, compliance with the frequency of their implementation in each particular patient. Special attention should be paid to the quality of medical care provided as part of preventive measures. In view of the limited number of diagnostic tests performed at the first stage of health check-up to diagnose urolithiasis, patients should be referred to the second stage of health check-up and to subsequent stages of medical care as indicated. Close attention should be paid to patients in risk groups, those with an aggravated family history, as well as people of working age, the preservation of whose health is one of the primary medical and social tasks of the health care system in the implementation of the national project "Long and Active Life", starting in 2025.

It is also important to emphasize that medical organizations providing primary health care and responsible for preventive measures should pay attention not only to the active detection of urolithiasis among the population, but also to strict compliance with the requirements for preventive measures among patients diagnosed in previous years. Organization of medical follow-up of patients, based on the norms provided by the Standard of medical care for adults with urolithiasis (diagnosis, treatment and medical follow-up) [12], will allow to prevent in time the development of complications of the disease, emergency conditions, including those requiring surgical intervention, to save the life and health of patients for many years.

Along with this, a separate direction for improving the organization of medical follow-up of patients with urolithiasis should be the establishment by the Ministry of Health of the Russian Federation as a body of federal executive power, which performs the functions of development of state policy and regulatory and legal regulation in the field of health care, of appropriate requirements in regulatory and legal documents governing the provision of medical care for this disease.

It seems that the application of these approaches will create favorable conditions for the implementation of patient-centered measures in the provision of medical care to patients with urolithiasis, minimize the occurrence of emergency situations, redistribute the resources of the health care system, aimed at the treatment

of urolithiasis, in favor of less wasteful primary health care.

ADDITIONAL INFORMATION

Author contribution. Vishnyakov N.I., Klyukovkin K.S., — research concept, editorial board; Mosiychuk O.M., Ivashikin Yu.M. — research concept, collection and processing of materials, analysis of data obtained, writing text; Kochorova L.V. — research concept, analysis of data obtained, writing text; Rotar R.Yu. — writing a text, reviewing the literature. All the authors read and approved the final version of the article before publication.

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Вклад авторов. Вишняков Н.И., Клюковкин К.С. — концепция исследования, редакция; Мосийчук О.М., Ивашикин Ю.М. — концепция исследования, сбор и обработка материалов, анализ полученных данных, написание текста; Кочорова Л.В. — концепция исследования, анализ полученных данных, написание текста; Ротарь Р.Ю. — написание текста, обзор литературы. Все авторы прочли и одобрили финальную версию статьи перед публикацией.

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