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OUTPATIENT SURGERY AT THE PEDIATRIC UNIVERSITY: DEVELOPMENT PROSPECTS

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ABSTRACT. Outpatient surgery is an addition to planned inpatient care, which has certain advantages for both patient and hospital, insurance companies and other healthcare providers. Back to 2018, the chief surgeon of the Ministry of Health of Russia, director of the MSRC after A.V. Vishnevsky, Academician of the Russian Academy of Sciences A.Sh. Revishvili noted that, taking into account the experience of surgeons since the beginning of the 20th century, part of the surgical care ought to be altered to the outpatient format. The development of outpatient ENT surgery, as well as general surgery in the outpatient healthcare sector, is a promising direction for the future. Since 2020, St. Petersburg State Pediatric Medical University has been performing planned surgical interventions according to the ENT profile in the CDC. The volume of surgical treatment includes adenotomy, adenotonzillotomy, adenovasotomy under general anesthesia. In total, from September 2020 to June 2022, 120 children aged 3 to 15 years were operated in outpatient department as part of one-day surgery. All children underwent a complete laboratory and instrumental preoperative examination, medical preparation. After observation for 4–6 hours, patients were discharged from the outpatient department for a course of outpatient aftercare with recommendations. A follow-up examination was also performed 7 days later. The development of this direction will intencify the work of an inpatient bed, reduce the waiting time for planned hospitalization of patients with more severe ENT pathology. Planned outpatient surgical care in other cases of ENT pathology is also sure to develop.

KEY WORDS: outpatient surgery; children; otorhinolaryngology.

АМБУЛАТОРНАЯ ЛОР-ХИРУРГИЯ В ПЕДИАТРИЧЕСКОМ УНИВЕРСИТЕТЕ: ПЕРСПЕКТИВЫ РАЗВИТИЯ

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РЕЗЮМЕ. Амбулаторная хирургия — это дополнение плановой стационарной помощи, которая имеет определенные преимущества как для пациента, так и для стационара, страховых компаний и других звеньев здравоохранения. Еще в 2018 году главный хирург Минздрава России, директор НМИЦ хирургии имени А.В. Вишневского, академик РАН А.Ш. Ревишвили отметил, что с учетом опыта хирургов с начала XX века нужно перевести часть хирургической помощи в формат амбулаторной. Развитие амбулаторной ЛОР-хирургии, а также в дальнейшем и общей хирургии в амбулаторном звене здравоохранения, является перспективным направлением. В Санкт-Петербургском государственном педиатрическом медицинском университете с 2020 года выполняются плановые хирургические вмешательства по ЛОР-профилю в условиях КДЦ. Объем хирургического лечения — аденотомия, аденотонзиллотомия, аденовазотомия с применением общей анестезии. Всего с сентября 2020 г. по июнь 2022 г. амбулаторно в рамках хирургии одного дня прооперировано 120 детей в возрасте от 3 до 15 лет. Всем детям выполнено полное лабораторно-инструментальное предоперационное обследование, медикаментозная подготовка. После проведения хирургического лечения пациенты наблюдались в течение 4–6 часов, после чего выписывались на амбулаторное наблюдение с рекомендациями. Спустя 7 дней производился контрольный осмотр. Развитие данного направления позволит оптимально разгрузить отделение стационара, сократив время ожидания для пациентов с более тяжелой плановой ЛОР-патологией. Планируется также развитие плановой амбулаторной хирургической помощи по другим профилям.

КЛЮЧЕВЫЕ СЛОВА: амбулаторная хирургия; дети; оториноларингология.

INTRODUCTION

In 1909, the Scotsman J. Nicol made a report to the British Medical Association on 8988 successful surgeons operations performed on children on an outpatient basis. Later, it was with this that the «birth» of outpatient surgery was associated, which has since started its development. In 1916, R. Waters was the first in the United States to open the Ambulatory Surgery Center (ASC), which later took its place in the healthcare system and medical education in the 70s of the 20th century. In 1938, G. Herzfeld presented material on the performance of more than 1000 hernia repairs in a one-day hospital over a period of 4 years. Then, in 1960, in England, J. Stallworthy presented his data showing a reduction in the length of hospital observation for patients undergoing surgery [8]. In Russia, “one-day surgery” was first introduced in 1963. Leningrad doctors published their experience accumulated over 4 years. The experience was based on 465 surgeries performed in the outpatient setting. The results of the treatment were good. The outcome of this movement was the emergence of a new direction in outpatient surgery — hospital-substituting forms of medical care to population [1, 3, 7, 9]. In 2018, the chief surgeon of the Russian Ministry of Health, director of the National Medical Research Center for Surgery named after A.V.Vishnevsky, academician of the RAS A.Sh.Revishvili noted outpatient surgery as “minor surgery”: “...It is necessary to transfer some types of surgical care from hospitals to the outpatient stage, and also to develop a system of surgical hospitals in polyclinics” [2]. The author, according to his concept, assigned the main role in the development of this direction to surgeons: “The basic idea of the strategy is dependence on the efforts of all parties equally. ... In this regard, the process of transition from «minor ambulatory surgery» to «major ambulatory surgery» is of particular interest” [4–6].

AIM

The aim and objectives of the study are to present a range of pathology for possible surgical treatment in a one-day hospital setting from practical medicine and healthcare and to assess

the current state of outpatient surgery using the example of patients with ENT pathologies.

MATERIALS AND METHODS

Since September 2020, at the Consultative and Diagnostic Center (CDC) of the St. Petersburg Pediatric Medical University (SPbGPMU), planned surgical interventions in the field of otorhinolaryngology have been performed. The structure of the diagnostic center has an equipped operating unit, in which there are a pre-operative, operating, post-operative observation rooms. Patients undergo an approved examination algorithm in the pre-operative period, where indications for surgical treatment and contraindications for elective surgical treatment in the CDC are determined and confirmed, and a set of tests required before planned surgical treatment is performed. Of particular importance was the study of the hemostasis system. The CDC also performs outpatient surgical procedures in the profile of surgery, ophthalmology and maxillofacial surgery.

Outpatient surgical otorhinolaryngology is one of the direction of modern medicine, which makes it possible to reduce the number of hospital bed days and increase hospital bed occupancy for patients with more severe ENT pathology, which will lead to improved bed occupancy rates and more rational use of the budget. However, equipping ambulatory surgery centers requires proper planning, modern, sufficient and high-tech facility, as well as training and recruitment of qualified personnel.

The absolute indications for adenotomy were prolonged difficulty in nasal breathing, persistent impairment of ventilation of the middle ear cavities, which is manifested by frequent otitis media and hearing loss, as well as chronic adenoiditis with common exacerbations and lack of effect of conservative treatment for 6 months. For each child, indications for adenotomy are determined individually, based on complaints, duration of illness, the effectiveness of previously carried out conservative treatment and examination data.

Patients who apply to the CDC on an outpatient basis under a CHI (compulsory health insurance) policy, for a fee, or under a VHI (voluntary health insurance) policy pass a selection committee and, if necessary, undergo further examination by related CDC specialists on an outpatient basis. After determining the indications for surgical treatment in the absence of severe concomitant somatic pathology, surgery can be performed in the outpatient surgery center of the CDC (one-day hospital).

The operational day plan:

1. Examination of a patient by an attending physician, preparation of medical documentation, analysis of laboratory data. Conversation with parents.
2. Examination of a patient by an anesthesiologist-resuscitator in the observation ward.
3. Performing planned surgical intervention.
4. Monitoring of a patient in the observation ward.
5. Postoperative patient assessment, thermometry, drug therapy (prescribed individually).
6. Discharge of a patient with recommendations for outpatient follow-up care.

The observation time for a patient in the postoperative period ranged from 4 to 6 hours. The patient is discharged in satisfactory condition, with normal objective data with recommendations. If complications arise in a child in the early postoperative period, as well as if it is necessary to monitor the child for more than 6 hours, the patient is transferred to the hospital of St. Peters-

Table 1

Distribution of patients by age and gender

Таблица 1

Распределение пациентов по возрасту и полу

Пол/Возраст ребенка Age of the child / Gender	**3–6 years / old 3–6 лет**	**6–9 years old / 6–9 лет**	**9–12 years old / 9–12 лет**	**12–15 years old / 12–15 лет**	**Total: / Итого:**
Male / Мальчики	22 (46,8%)	29 (54,7%)	5 (46,2%)	5 (62,5%)	61 (50,8%)
Female / Девочки	25 (53,2)	24 (45,3%)	7 (53,8%)	3 (37,5%)	59 (49,2%)
Total: / Итого:	47 (40%)	53 (44%)	12 (10%)	8 (6%)	120

burg State Pediatric Medical University for dynamic observation.

RESULTS

From September 2020 to June 2022, 120 operations in the field of otorhinolaryngology were performed at the CDC of St. Petersburg State Pediatric Medical University.

Among children under 6 years of age, girls predominated, their number was 25 (53,2%) and there were 22 (46,8%) boys. In total, 48 children were operated on in this group of children. In the group of children from 6 to 9 years old, boys predominated — 29 people (54,7%), there were 24 girls (45,3%), a total of 53 children. In the next age group (from 9 to 12 years old), girls predominated — 7 people (53,8%), boys — 5 (46,2%), a total of 13 children. And in the group from 12 to 15 years old, 8 children were operated on, of which 5 boys (62,5%), 3 girls (37,5%) (Table 1).

In preschool age, the volume of surgical procedures in the form of adenotomy predominated in 33 patients (70,3%), the number of adenotonsillotomies was performed in 14 children (29,7%). At primary school age, the scope of surgical intervention in children also predominated in the form of adenotomy — performed in 40 patients (76,9%), adenotonsillotomy was performed in 12 children (91,6%), tonsillotomy — in one child (8,3%), girls 6 years old. She previously had adenotomy surgery performed in 2020 at another medical institution. Due to the presence of grade III hypertrophy of the palatine tonsils, the presence of sleep apnea in the child for up to 20 seconds, the absence of hematological signs of herpes virus infection, a calm somatic status and the absence of signs of a recurrent tonsillitis, the girl underwent surgical treatment in this amount (Table 2).

CONCLUSION

1. Since 2020, more than 120 surgeries under general anesthesia have been performed at the CDC of St. Petersburg State Pediatric Medical University. The range of children is mainly from 6 to 9 years old, the most common volume of surgery is adenotomy. The success of the surgical interventions is associated with the coordinated work of all specialists involved in elective outpatient surgical treatment.

2. Further development of elective outpatient surgery leads to the expansion of one-day surgery capabilities, an increase in hospital bed occupancy, and a reduction in costs per patient in the ENT department of a hospital (provided that the patient has no contraindications in terms of the volume and type of surgery, as well as somatic pathology).

3. Optimally organized work of the ambulatory surgical service will reduce the increased burden on doctors in the ENT department of the hospital, who are often forced to provide elective outpatient surgical care in the ENT department for social and paramedical reasons. This strategy will also help better equip ambulatory surgery centers and focus on specialist training.

Table 2

The volume of surgical treatment depends on gender and age

Таблица 2

Объем оперативного лечения в зависимости от пола и возраста

Age/scope of surgical treatment / Возраст/объем хирургического лечения	**3–6 years old / 3–6 лет**	**6–9 years old / 6–9 лет**	**9–12 years old / 9–12 лет**	**12–15 years old / 12–15 лет**	**Total: / Итого:**
Adenotomy / Аденотомия	33 (37%)	40 (46%)	11 (12%)	5 (5%)	89 (74%)
Adenotonsillotomy / Аденотонзиллотомия	14 (54%)	12 (46%)	–	–	26 (21%)
Adenovasotomy / Аденовазотомия	–	–	1 (25%)	3 (75%)	4 (3%)
Tonsillotomy / Тонзиллотомия	–	1 (100%)	–	–	1 (0.8%)
Total: / Итого:	47 (39%)	52 (43%)	12 (10%)	8 (6%)	120

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisi-tion, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

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Consent for publication. Written consent was obtained from the patient for publication of relevant medical information within the manuscript.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

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