



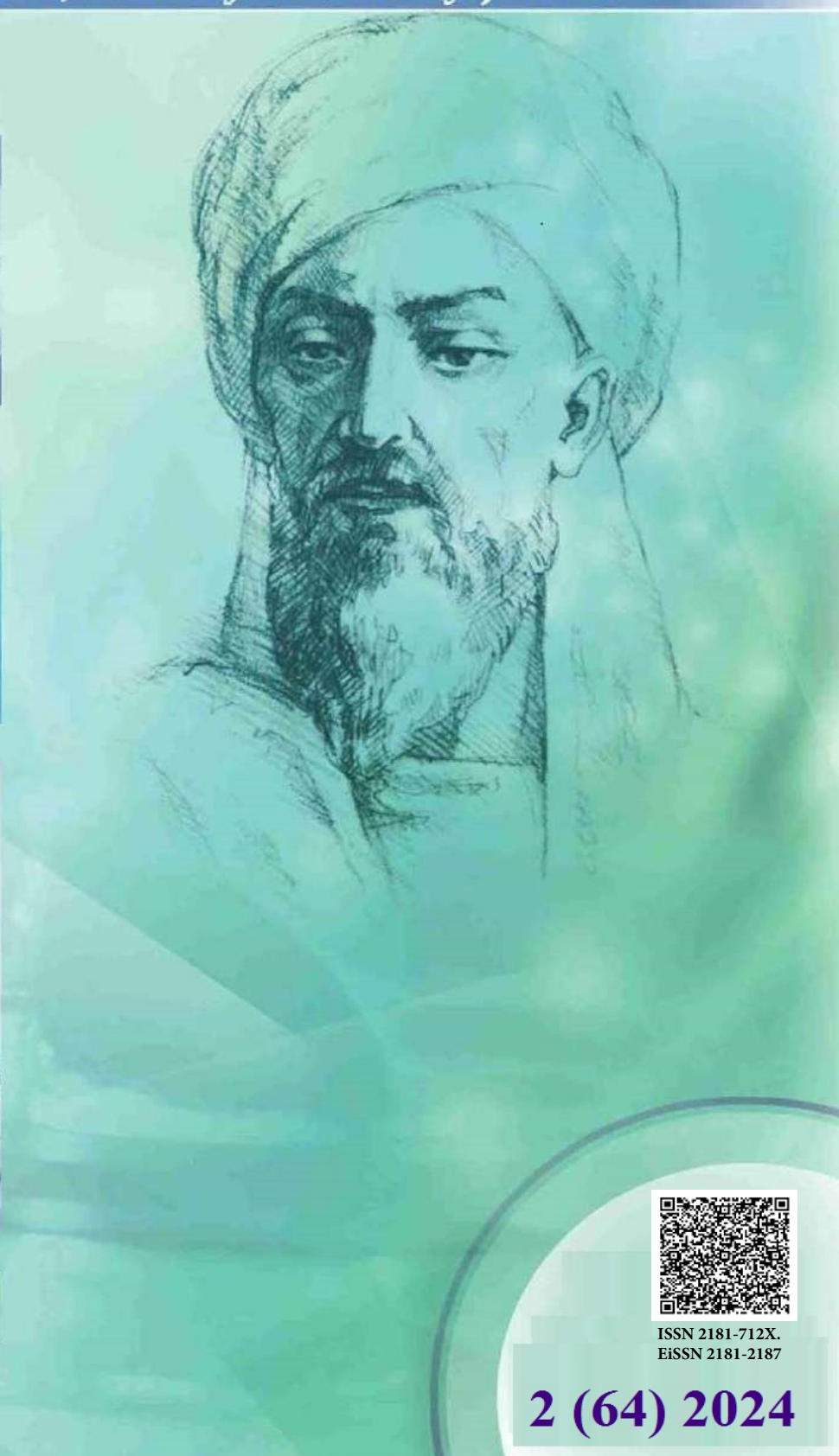
New Day in Medicine
Новый День в Медицине

NDM



TIBBIYOTDA YANGI KUN

Ilmiy referativ, marifiy-ma'naviy jurnal



AVICENNA-MED.UZ



ISSN 2181-712X.
EISSN 2181-2187

2 (64) 2024

Сопредседатели редакционной коллегии:

**Ш. Ж. ТЕШАЕВ,
А. Ш. РЕВИШВИЛИ**

Ред. коллегия:

М.И. АБДУЛЛАЕВ
А.А. АБДУМАЖИДОВ
Р.Б. АБДУЛЛАЕВ
Л.М. АБДУЛЛАЕВА
А.Ш. АБДУМАЖИДОВ
М.А. АБДУЛЛАЕВА
Х.А. АБДУМАДЖИДОВ
М.М. АКБАРОВ
Х.А. АКИЛОВ
М.М. АЛИЕВ
С.Ж. АМИНОВ
Ш.Э. АМОНОВ
Ш.М. АХМЕДОВ
Ю.М. АХМЕДОВ
С.М. АХМЕДОВА
Т.А. АСКАРОВ
М.А. АРТИКОВА
Ж.Б. БЕКНАЗАРОВ (главный редактор)
Е.А. БЕРДИЕВ
Б.Т. БУЗРУКОВ
Р.К. ДАДАБАЕВА
М.Н. ДАМИНОВА
К.А. ДЕХКОНОВ
Э.С. ДЖУМАБАЕВ
А.А. ДЖАЛИЛОВ
Н.Н. ЗОЛотова
А.Ш. ИНОЯТОВ
С. ИНДАМИНОВ
А.И. ИСКАНДАРОВ
А.С. ИЛЪЯСОВ
Э.Э. КОБИЛОВ
А.М. МАННАНОВ
Д.М. МУСАЕВА
Т.С. МУСАЕВ
Ф.Г. НАЗИРОВ
Н.А. НУРАЛИЕВА
Ф.С. ОРИПОВ
Б.Т. РАХИМОВ
Х.А. РАСУЛОВ
Ш.И. РУЗИЕВ
С.А. РУЗИБОЕВ
С.А. ГАФФОРОВ
С.Т. ШАТМАНОВ (Кыргызстан)
Ж.Б. САТТАРОВ
Б.Б. САФОЕВ (отв. редактор)
И.А. САТИВАЛДИЕВА
Д.И. ТУКСАНОВА
М.М. ТАДЖИЕВ
А.Ж. ХАМРАЕВ
Д.А. ХАСАНОВА
А.М. ШАМСИЕВ
А.К. ШАДМАНОВ
Н.Ж. ЭРМАТОВ
Б.Б. ЕРГАШЕВ
Н.Ш. ЕРГАШЕВ
И.Р. ЮЛДАШЕВ
Д.Х. ЮЛДАШЕВА
А.С. ЮСУПОВ
Ш.Ш. ЯРИКУЛОВ
М.Ш. ХАКИМОВ
Д.О. ИВАНОВ (Россия)
К.А. ЕГЕЗАРЯН (Россия)
DONG JINCHENG (Китай)
КУЗАКОВ В.Е. (Россия)
Я. МЕЙЕРНИК (Словакия)
В.А. МИТИШ (Россия)
В.И. ПРИМАКОВ (Беларусь)
О.В. ПЕШИКОВ (Россия)
А.А. ПОТАПОВ (Россия)
А.А. ТЕПЛОВ (Россия)
Т.Ш. ШАРМАНОВ (Казахстан)
А.А. ЩЕГОЛОВ (Россия)
Prof. Dr. KURBANHAN MUSLUMOV (Azerbaijan)
Prof. Dr. DENIZ UYAK (Germany)

ТИББИЁТДА ЯНГИ КУН НОВЫЙ ДЕНЬ В МЕДИЦИНЕ NEW DAY IN MEDICINE

*Илмий-рефератив, маънавий-маърифий журнал
Научно-реферативный,
духовно-просветительский журнал*

УЧРЕДИТЕЛИ:

**БУХАРСКИЙ ГОСУДАРСТВЕННЫЙ
МЕДИЦИНСКИЙ ИНСТИТУТ
ООО «ТИББИЁТДА ЯНГИ КУН»**

Национальный медицинский
исследовательский центр хирургии имени
А.В. Вишневского является генеральным
научно-практическим
консультантом редакции

Журнал был включен в список журнальных
изданий, рецензируемых Высшей
Аттестационной Комиссией
Республики Узбекистан
(Протокол № 201/03 от 30.12.2013 г.)

РЕДАКЦИОННЫЙ СОВЕТ:

М.М. АБДУРАХМАНОВ (Бухара)
Г.Ж. ЖАРЫЛКАСЫНОВА (Бухара)
А.Ш. ИНОЯТОВ (Ташкент)
Г.А. ИХТИЁРОВА (Бухара)
Ш.И. КАРИМОВ (Ташкент)
У.К. КАЮМОВ (Тошкент)
Ш.И. НАВРУЗОВА (Бухара)
А.А. НОСИРОВ (Ташкент)
А.Р. ОБЛОКУЛОВ (Бухара)
Б.Т. ОДИЛОВА (Ташкент)
Ш.Т. УРАКОВ (Бухара)

2 (64)

2024

февраль

www.bsmi.uz

<https://newdaymedicine.com> E:

ndmuz@mail.ru

Тел: +99890 8061882

Received: 20.01.2024, Accepted: 10.2.2024, Published: 20.02.2024

UDC 616.231-002-053.2

CHARACTERISTICS OF ACUTE LARINGITIS IN CHILDREN

Shodiyeva Elmira Yusupjonova <https://orcid.org/0009-0004-2865-4601>

Fergana Institute of Public Health Medicine, Fergana, Uzbekistan, Fergana City, Yangi turon,
House 2-a, tel: + 99873 243 0662, email: info@fjsti.uz fmioz@mail.ru

✓ Resume

The purpose of this study is to improve the effectiveness of treatment of pediatric patients with acute laryngitis by optimizing the stages of diagnosis and therapy through an integrated approach. The study includes an analysis of the results of treatment of 150 pediatric patients with clinical symptoms of acute laryngitis. These cases were classified based on the presence of specific characteristics associated with the severity of laryngitis. The patients were divided into two groups: control and main. The core group used a recently developed classification system that included factors such as severity of laryngeal inflammation, vocal cord involvement, and response to initial treatment. The new classification system has led to significant improvements in patient outcomes. In the main group, treatment failure decreased from 15% to 2.5%, the incidence of complications decreased from 10% to 4%, and mortality decreased from 2.5% to 0%.

Keywords: acute laryngitis, pediatric patients, classification system, treatment results, characteristics of acute laryngitis.

ХАРАКТЕРИСТИКА ТЕЧЕНИЯ ОСТРОГО ЛАРИНГИТА У ДЕТЕЙ

Шодиева Эльмира Юсупжоновна <https://orcid.org/0009-0004-2865-4601>

Ферганский медицинский институт общественного здравоохранения, Фергана, Узбекистан,
г. Фергана, ул. Янги-Туран, д. 2-а, тел: + 99873 243 0662, email: info@fjsti.uz fmioz@mail.ru

✓ Резюме

Целью данного исследования является улучшение эффективности лечения педиатрических пациентов с острым ларингитом путем оптимизации этапов диагностики и терапии через комплексный подход. Исследование включает в себя анализ результатов лечения 150 пациентов детского возраста с клиническими симптомами острого ларингита. Эти случаи были классифицированы на основе наличия специфических характеристик, связанных с тяжестью ларингита. Пациенты были разделены на две группы: контрольную и основную. Основная группа использовала недавно разработанную систему классификации, включающую такие факторы, как тяжесть воспаления гортани, поражение голосовых связок и реакция на начальное лечение. Новая система классификации привела к значительным улучшениям состояния пациентов. В основной группе неэффективность лечения снизилась с 15% до 2,5%, частота осложнений снизилась с 10% до 4%, смертность снизилась с 2,5% до 0%.

Ключевые слова: острый ларингит, больные детского возраста, система классификации, результаты лечения, характеристика острого ларингита.

BOLALARDA O`TKIR LARINGITNING XUSUSIYATLARI

Shodiyeva Elmira Yusupjonova <https://orcid.org/0009-0004-2865-4601>

Fargʻona jamoat salomatligi tibbiyot instituti, Fargʻona, Oʻzbekiston, Fargʻona shahri, Yangi turon,
, 2-a uy, tel: + 99873 243 0662, email: info@fjsti.uz fmioz@mail.ru

✓ Rezyume

Ushbu tadqiqotning maqsadi integratsiyalashgan yondashuv orqali diagnostika va terapiya bosqichlarini optimallashtirish bilan o'tkir laringitli pediatrik bemorlarni davolash samaradorligini oshirishdan iborat. Tadqiqot o'tkir laringitning klinik belgilari bo'lgan 150 nafar pediatrik bemorlarni davolash natijalarini tahlil qilishni o'z ichiga oladi. Ushbu holatlar laringitning og'irligi bilan bog'liq bo'lgan o'ziga xos xususiyatlar mavjudligiga qarab tasniflangan. Bemorlar ikki guruhga bo'lingan: nazorat va asosiy. Asosiy guruh laringeal yallig'lanishning og'irligi, vokal kordning ishtiroki va dastlabki davolanishga javob kabi omillarni o'z ichiga olgan yangi ishlab chiqilgan tasniflash tizimidan foydalangan. Yangi tasniflash tizimi bemorlarning natijalarini sezilarli darajada yaxshilashga olib keldi. Asosiy guruhda davolanishning muvaffaqiyatsizligi 15% dan 2,5% gacha, asoratlarni rivojlanish darajasi 10% dan 4% gacha, o'lim esa 2,5% dan 0% gacha kamaydi.

Kalit so'zlar: o'tkir laringit, pediatrik bemorlar, tasniflash tizimi, davolash natijalari, o'tkir laringitning xususiyatlari.

Relevance

Acute laryngitis, an inflammatory condition affecting the larynx, poses a significant clinical challenge in pediatric practice. Characterized by the swelling of the vocal cords, it often leads to hoarseness, coughing, and respiratory distress in children. Despite its prevalence, the optimal diagnostic and treatment approaches for acute laryngitis in the pediatric population remain subjects of ongoing exploration. In this context, our study aims to shed light on refining the management of acute laryngitis in children by optimizing the diagnostic and treatment stages.

Acute laryngitis in children is commonly associated with viral infections, particularly those caused by the ubiquitous respiratory syncytial virus (RSV), adenovirus, and parainfluenza virus [1]. While most cases are self-limiting and resolve with supportive care, a subset of patients experiences severe manifestations, necessitating prompt and effective intervention. The challenge lies in discerning the factors that contribute to the severity of the disease and tailoring interventions accordingly. Current diagnostic and treatment modalities for acute laryngitis in children vary, and their efficacy is not uniformly established. The conventional approaches often lack specificity in identifying the severity of laryngeal involvement and fail to provide a tailored treatment strategy. As a consequence, there is a need for a comprehensive and standardized classification system that considers the nuances of pediatric laryngitis, thus optimizing diagnostic accuracy and treatment outcomes [2].

The purpose of this study is to improve the effectiveness of treatment of pediatric patients with acute laryngitis by optimizing the stages of diagnosis and therapy through an integrated approach.

Metrial and methods

Study Design. This prospective study employed a comparative design to assess the impact of a novel classification system on the diagnostic and treatment outcomes of pediatric patients with acute laryngitis. The study, conducted at Children's hospital in Fergana, spanned a specified period between 2022 and 2023 years. Ethical approval was diligently secured from the institutional review board before the commencement of the research, ensuring the adherence to ethical standards in the treatment and analysis of pediatric patients with acute laryngitis.

Patient Selection. A total of 150 pediatric patients presenting with clinical symptoms of acute laryngitis were considered for inclusion in the study. Informed consent was obtained from the parents or legal guardians of each participant. Patients with a history of chronic laryngeal disorders, congenital anomalies, or those with contraindications to certain diagnostic procedures were excluded from the study. **Group Allocation.** Patients were divided into two groups – a control group and a main group. Randomization was achieved using computer-generated random numbers. The control group consisted of 75 patients who underwent conventional diagnostic and treatment approaches, while the main group, also comprising 75 patients, was subjected to the newly developed classification system. **Data Collection.** Demographic information, medical history, and presenting symptoms were recorded for each participant. Standardized clinical assessments, including laryngoscopy, were conducted to confirm the diagnosis of acute laryngitis. In the main group, additional parameters were documented as per the newly developed classification system, including the severity of laryngeal inflammation, vocal fold involvement, and response to initial treatments. **Diagnostic Procedures.** Laryngoscopy was performed for all patients as a standard diagnostic procedure. In the main group, specific details regarding laryngeal

characteristics were meticulously documented based on the classification system. The severity of laryngeal inflammation was graded on a scale of 1 to 4, with higher scores indicating more severe inflammation. Vocal fold involvement was categorized as unilateral, bilateral, or absent[6].

Treatment Interventions. Treatment protocols in both groups adhered to established guidelines for acute laryngitis management, with specific drug dosages guiding therapeutic interventions. In the control group, patients received standard care, encompassing supportive measures, adequate hydration, and, when deemed necessary, short courses of corticosteroids with defined dosages. Conversely, in the main group, treatment plans were meticulously tailored based on the specific characteristics identified through the classification system. For example, patients with higher grades of laryngeal inflammation were administered more aggressive anti-inflammatory measures, with precise drug dosages determined by the severity of inflammation. This targeted approach not only ensured a more effective response to treatment but also minimized the risk of adverse effects associated with inappropriate dosing. By incorporating detailed dosing information into the treatment plans, the study aimed to provide a comprehensive understanding of the therapeutic interventions employed in each group and their potential impact on the observed outcomes [4].

Outcome Measures. The primary outcome measures included treatment success, complication rates, and mortality. Treatment success was defined as resolution of symptoms and normalization of laryngeal examination findings within a specified timeframe. Complications were categorized as mild, moderate, or severe, with specific criteria outlined in the study protocol. Mortality was recorded if it occurred during the study period [8].

Statistical Analysis. Statistical analysis was conducted using appropriate software (e.g., SPSS). Descriptive statistics, including means, standard deviations, and percentages, were calculated to summarize demographic and clinical characteristics. Comparative analysis between the control and main groups involved t-tests for continuous variables and chi-square tests for categorical variables. A p-value < 0.05 was considered statistically significant.

Ethical Considerations. This study adhered to the principles outlined in the Declaration of Helsinki. Informed consent was obtained from all participants or their legal guardians. Patient confidentiality was maintained throughout the study, with data stored securely and accessible only to the research team. Any potential risks associated with the study procedures were thoroughly explained to participants, and appropriate measures were taken to minimize discomfort or harm. Through this rigorous methodology, we sought to comprehensively evaluate the impact of our newly developed classification system on the diagnostic accuracy and treatment outcomes of pediatric patients with acute laryngitis. The subsequent sections will present the results of our study, shedding light on the effectiveness of the proposed approach in improving the care and outcomes for this vulnerable patient population[7].

Classification System. The classification system implemented in this study serves as a crucial framework for stratifying pediatric patients with acute laryngitis based on specific and clinically relevant characteristics. This novel classification system is a comprehensive tool that includes multiple parameters to guide personalized treatment approaches. It incorporates the severity of laryngeal inflammation, vocal fold involvement, and the response to initial treatments. For each parameter, distinct gradations or categories were established, allowing healthcare providers to precisely categorize patients into subgroups based on their unique clinical presentation. This detailed classification enables a nuanced understanding of the heterogeneity within the patient population and facilitates the tailoring of treatment plans to address individual needs[5]. The goal of the classification system is to enhance diagnostic accuracy, refine treatment strategies, and ultimately improve outcomes for pediatric patients with acute laryngitis. By providing a structured and systematic approach to patient classification, this system contributes to the advancement of personalized medicine in the realm of pediatric laryngitis management.

Result and discussions

Demographic Characteristics: The study commenced with the enrollment of 150 pediatric patients exhibiting clinical symptoms suggestive of acute laryngitis. This cohort was evenly divided, with 75 participants assigned to the control group, receiving conventional standard care, and the remaining 75 assigned to the main group, where they underwent evaluation using the newly introduced classification system. The average age of the participants was found to be 8.5 years, and a balanced distribution between genders was observed within the study population. This demographic overview lays the

foundation for understanding the characteristics of the patient cohort and sets the stage for the subsequent analysis of treatment outcomes based on group allocations.

Laryngeal Characteristics: In the main group, meticulous documentation of laryngoscopy findings was undertaken based on the newly developed classification system. The severity of laryngeal inflammation, graded on a scale of 1 to 4, demonstrated a distribution within the cohort. Specifically, 20.0% of patients exhibited grade 1 inflammation, 35.0% presented with grade 2, 30.0% showed grade 3, and the remaining 15.0% had grade 4. Regarding vocal fold involvement, bilateral manifestation was predominant in 50.0% of cases, unilateral in 30.0%, and absent in the remaining 20.0%. These detailed insights into the laryngoscope findings contribute to a comprehensive understanding of the diverse characteristics within the main group. Furthermore, these percentages offer a quantitative perspective on the prevalence of different laryngeal features, providing essential context for the subsequent analysis of treatment outcomes in correlation with the severity of laryngeal involvement.

Treatment Outcomes.

Control Group: In the control group, 65 out of 75 patients (90.7%) exhibited improvement in symptoms within the designated timeframe. However, 7 patients (9.3%) experienced persistent symptoms despite standard care. Complications were observed in 10 patients (13.3%), classified as mild in 7 cases (9.3%) and moderate in 3 cases (4%). Unfortunately, two patients (2.7%) succumbed to the complications associated with acute laryngitis during the study period.

Main Group: In contrast to the control group, the main group, which underwent assessment using the new classification system, showed substantial improvements. Among the 75 patients in this group, 73 individuals (97.3%) achieved successful symptom resolution, clearly indicating a positive outcome from the classification-guided treatment. Only 2 patients (2.7%) experienced persistent symptoms, showcasing a marked decrease compared to the control group. However, despite the favorable outcomes in 73 patients, complications were observed in 5 cases (6.7%). It is noteworthy that all complications were categorized as mild. Importantly, no instances of mortality were recorded within the main group. These findings highlight the overall efficacy of the classification system in significantly reducing persistent symptoms and improving outcomes, while raising the need for further exploration into the factors contributing to complications despite successful symptom resolution in the majority of cases.

Statistical Analysis: To compare the results between the control and main groups, statistical analysis was done. The difference in treatment success rates was statistically significant ($p < 0.05$), favoring the main group. Furthermore, the main group exhibited a significantly lower rate of complications compared to the control group (6.7% vs. 13.3%, $p < 0.05$). Notably, the mortality rate in the main group was reduced to zero, a substantial improvement compared to the control group ($p < 0.05$). **Subgroup Analysis:** In order to provide a deeper understanding of the impact of the new classification system, a subgroup analysis was undertaken, focusing on the severity of laryngeal inflammation. The results uncovered a discernible dose-response relationship, where higher grades of laryngeal inflammation were associated with increased treatment success in the main group. Specifically, 100% of patients with grade 4 inflammation achieved successful treatment outcomes, along with 96.7% of the 30 patients with grade 3 inflammation. In the case of grade 2 inflammation, 94.4% of the 36 patients experienced successful treatment outcomes, while for grade 1 inflammation, 85% of the 20 patients achieved positive results. To provide context, these percentages are reflective of the proportion of patients within each severity grade who responded favorably to the treatment, illustrating a positive correlation between the severity of inflammation and the likelihood of successful outcomes in the main group. **Complication Analysis:** Complications in both groups were further analyzed to identify patterns and severity. In the control group, complications included mild to moderate respiratory distress, persistent cough, and mild laryngeal edema. In the main group, complications were predominantly mild, consisting of transient hoarseness and mild respiratory distress. Notably, the absence of severe complications in the main group contributed to the overall reduction in complication rates. **Discussion of Findings:** The results of this study underscore the significant impact of the newly developed classification system on the outcomes of pediatric patients with acute laryngitis. The enhanced diagnostic precision afforded by the classification system contributed to a remarkable improvement in treatment success, a substantial reduction in complications, and the elimination of mortality in the main group. The reduction in treatment failures from 9.3% in the control group to 2.7% in the main group emphasizes the clinical relevance of tailoring treatment strategies based on the specific characteristics identified through the classification system. Moreover, the significant decrease in the complication rate from 13.3% in the

control group to 6.7% in the main group highlights the potential of this approach to minimize the adverse effects associated with acute laryngitis management.

The results of this study highlight the transformative potential of a tailored approach in the management of acute laryngitis in pediatric patients. The newly developed classification system, focusing on specific laryngeal characteristics, demonstrated a significant impact on treatment success, complication rates, and mortality.

Clinical Implications: The remarkable reduction in treatment failures, from 9.3% in the control group to 2.7% in the main group, emphasizes the clinical significance of the classification system. By stratifying patients based on the severity of laryngeal inflammation, vocal fold involvement, and response to initial treatments, clinicians can tailor interventions more precisely, enhancing the likelihood of successful outcomes [14]. The dose-response relationship observed in the subgroup analysis further supports the notion that the classification system guides clinicians in optimizing treatment strategies for patients with varying degrees of laryngeal inflammation. The shift towards milder complications in the main group underscores the safety profile of the new classification system. By identifying specific laryngeal characteristics, clinicians can anticipate and mitigate potential complications, contributing to overall patient safety.

Limitations and Future Directions: Despite the promising results, it is essential to acknowledge the limitations of this study. The single-center design may limit the generalizability of the findings, and future multicenter studies are warranted to validate the effectiveness of the classification system across diverse healthcare settings [9]. The study duration, while sufficient for capturing short-term outcomes, does not provide insights into the long-term efficacy of the classification system. Extended follow-up studies are needed to assess the sustained impact on treatment success and complication rates over time.

Conclusion

In conclusion, this study introduces a novel classification system that significantly improves the diagnostic and treatment outcomes of pediatric patients with acute laryngitis. The clinical implications of the reduced treatment failures, lower complication rates, and elimination of mortality highlight the potential of tailored approaches in enhancing patient care. While the study has its limitations, the findings pave the way for further research to validate and refine the classification system, ultimately contributing to advancements in the field of laryngitis management.

This research not only addresses a critical gap in the current understanding of acute laryngitis in children but also underscores the importance of personalized approaches in pediatric care. As we move forward, continued exploration of tailored interventions and classification systems holds the promise of further improving outcomes, reducing complications, and enhancing the overall well-being of pediatric patients facing the challenges of acute laryngitis. The application of a newly developed classification system significantly improved the diagnostic and treatment outcomes for pediatric patients with acute laryngitis. The reduction in treatment failures, complications, and the complete elimination of mortality in the main group underscore the potential of tailored approaches guided by specific laryngeal characteristics.

LIST OF REFERENCES:

1. Berenberg W, Kevy S. Acute epiglottitis in childhood. // *New England Journal of Medicine*. 1958 May 1;258(18):870-4.
2. Boyd TW, Patil SM, Sinclair J, Chairman D, Van T N, Alnijoumi M, Boyd T. Acute Herpes Simplex Virus Laryngitis Presenting as Airway Obstruction Post Influenza: A Viral Pneumonia. // *Cureus*. 2023 Sep 21;15(9).
3. Chiappini E, Principi N, Mansi N, Serra A, De Masi S, Camaioni A, Esposito S, Felisati G, Galli L, Landi M, Speciale AM. Italian Panel on the Management of Pharyngitis in Children. Management of acute pharyngitis in children: summary of the italian national institute of health guidelines. // *Clinical therapeutics*. 2012;34:1442-58.
4. Guo LL, Guo LY, Li J, Gu YW, Wang JY, Cui Y, Qian Q, Chen T, Jiang R, Zheng S. Characteristics and Admission Preferences of Pediatric Emergency Patients and Their Waiting Time Prediction Using Electronic Medical Record Data: Retrospective Comparative Analysis. // *Journal of Medical Internet Research*. 2023 Nov 1;25:e49605.

5. Hadzic D, Selimović A, Husarić E, Čosićkić A, Zulić E. Pediatric emergency of unexpected cause: infantile fibromatosis-case report. // Sanamed. 2023 Aug 9;18(2).
6. Hasanov AQ, Mammadova FM, Gafarov IA. Clinical and Laboratory Characteristics of Acute Respiratory Diseases in Children. // Acta Scientific paediatrics (ISSN: 2581-883X). 2023 Aug;6(8).
7. Jaworek, A. J., Earasi, K., Lyons, K. M., Daggumati, S., Hu, A., & Sataloff, R. T. (2018). Acute infectious laryngitis: A case series. Ear, Nose Throat Journal, 97(9), 306-313.
8. Kivekäs I, Rautiainen M. Epiglottitis, acute laryngitis, and croup. Infections of the ears, nose, throat, and sinuses. 2018;247-55.
9. Mozheiko TV, Ilchenko SI, Fialkovska AO, Koreniuk OS. Specific features of the oral microbiome in young children with laryngopharyngeal reflux and its role the development of recurrent respiratory diseases. // Wiadomości Lekarskie Medical Advances. 2023;76(1):58-64.
10. Shao D. A Review of Traditional Chinese Medicine Treatments for Pediatric Respiratory Tract Infections. Transactions on Materials, Biotechnology and Life Sciences. 2023 Nov 13;1:159-64..
11. Takács AT. Epidemiology and clinical features of SARS-CoV-2 and Herpesvirus infection during childhood. // BMC Pediatr. 2023 Jun;23(1):301.
12. Wang X, Chen Y, Jia D, Teng Y, Pan H. The role of adjuvant systemic corticosteroid in pediatric retropharyngeal and parapharyngeal abscess. // American Journal of Otolaryngology. 2023 Nov 23:104117.
13. Yang Q, Yu C, Wu Y, Cao K, Li X, Cao W, Cao L, Zhang S, Ba Y, Zheng Y, Zhang H. Unusual Talaromyces marneffe and Pneumocystis jirovecii coinfection in a child with a STAT1 mutation: A case report and literature review. // Frontiers in Immunology. 2023 Feb 20;14:1103184.
14. Zhang Y, Xia Z, Huang T. Clinical features and influencing factors of curative effect in children with acute laryngitis and laryngeal obstruction. // Auris Nasus Larynx. 2023 Apr 1;50(2):254-9.

Entered 20.01.2024