

результаті дослідження ми зробили висновок про ефективність комбінації N-ацетилцистеїну з сольовим розчином в лікуванні гострого риносинуситу та покращенні як об'єктивного, так і суб'єктивного стану пацієнтів.

Ключові слова: гострий вірусний риносинусит, іригація, N-ацетилцистеїн, сольові розчини.

Стаття надійшла 24.09.2019 р.

бактериальную форму. В результате исследования мы пришли к выводу об эффективности комбинации N-ацетилцистеина с соевым раствором в лечении острого риносинусита и улучшении как объективного, так и субъективного состояния пациентов.

Ключевые слова: Острый вирусный риносинусит, ирригация, N-ацетилцистеин, солевые растворы.

Рецензент Похилько В.І.

DOI 10.26724/2079-8334-2020-3-73-12-16

UDC 616.314.2

E.V. Beliaiev, V.Yu. Filimonov, M.O. Dmitriev, T.R. Zakalata
National Pirogov Memorial Medical University, Vinnytsya

FREQUENCY, STRUCTURE, AND DYNAMICS OF ADENTIA DEVELOPMENT AND RELATED SECONDARY DENTAL DEFORMATIONS AMONG YOUNG PEOPLE

e-mail: beliaiev@i.ua

As part of the epidemiological survey study on dental health in young people, the data of clinical dental examination of 137 boys and 142 girls, the students of dental faculty of Vinnytsya National Pirogov Memorial Medical University, were analyzed. For comparative analysis of the structure of adentia the data of epidemiological study held in 2010 on the the Department of Orthopedic Dentistry were used. Statistical processing of the results was carried out in the Statistica 6.0 licensed package. The comparison of structure and frequency of adentia of young population in 2010 and 2019 revealed a decrease of frequency of this pathology. Change of the structure of adentia toward the relief of orthopedic pathology due to the significant decrease of adentia in the form of edentulous areas located posterior to the remaining natural teeth according to the topography should also be emphasized. A significant frequency of secondary deformations in the examined group with the prevalence of horizontal form was identified. In the structure of adentia there is a ninefold prevalence of adentia in the posterior area above the anterior one, a significant prevalence of adentia of the lower jaw.

Key words: missing teeth, epidemiology, secondary deformations.

The work is a fragment of the research project "Optimization of diagnostics, orthopedic treatment and prevention of jaw and facial system pathology", state registration No. 0119U103951.

In all age groups adentia occupies one of the dominant places in the structure of dental diseases [4]. Pulling teeth out in itself reduces the effectiveness of the masticatory function and, much more importantly, affects the morphology, development, and function of the entire dentition system [1]. At least one tooth pulled out triggers a whole cascade of changes and adjustments aimed at offsetting the loss of dentition integrity. These changes affect both the local adaptive mechanisms and the general ones and also cause psycho-emotional disorders [6].

Identifying indicators of the quality of life in dentistry as general indicators of a comprehensive assessment of the patient's condition [8] is often used to evaluate the effectiveness of treatment of the dentition system pathology, including adentia [12]. A great number of patients pay attention to function declining, disturbance of emotional and social well-being [10]. Concerns about appearance and behavior change aimed at masking defects of dentition are noted [13]. Aesthetics are the dominant motivating factor that encourages a patient to receive orthopedic or orthodontic dental care.

In adentia cases, there is a local functional sub- or decompensation of periodontal tissue of teeth around the defects of dental arches or opposite teeth. Along with inflammatory-destructive diseases of periodontal tissue that destroy its structure, missing tooth inevitably lead to the emergence of secondary deformations of dental arches [2].

The purpose of the study was to determine the frequency, structure, and dynamics of the development of adentia and related secondary deformations of dental arches among young people.

Material and methods. As a part of the epidemiological survey of dental health of young people, the data from clinical dental examination of 137 boys aged 17 to 21 years and 142 girls aged 16 to 20 years, the students of dental faculty of Vinnytsya National Pirogov Memorial Medical University, were analyzed.

The results of clinical examination were entered into a specially designed "patient's examination dental record", which displayed the whole spectrum of dental status.

The types of secondary deformations were determined according to the classification of Havrylov E. I. (1966) and Lebedenko N. Yu. (2007) [2]; dentition defects were determined according to Kennedy classification [1].

Determination of the minimum sufficient number of surveyed was carried out according to the recommendations of WHO [15].

For the comparative analysis of the structure of adentia, the data from epidemiological survey conducted in 2010 on the basis of the Department of Orthopedic Dentistry of Vinnitsya National Pirogov Memorial Medical University were used [7].

Statistical processing of the results was carried out in the "Statistica 6.0" licensed package.

Results of the study and their discussion. The epidemiological survey of frequency and structure of adentia and related secondary deformations will help to identify the need for dental care in various dental fields. According to the WHO Guidelines (1989), the issue of epidemiology of dental diseases needs to be updated and defined every five years [15].

Epidemiological survey data on the frequency of adentia in 2019 and 2010 are presented in table 1.

Table 1

The frequency of adentia emergence

Year of research	Gender	Adentia frequency
2019	overall (n=279)	14.0 % (n=39)
	boys (n=137)	6.8 % (n=19)
	girls (n=142)	7.2 % (n=20)
	P _{b-g}	>0.05
2010 [7]	overall (n=150)	33.3 % (n=50)
P _{ov2019-2010}		<0.001

In the survey we identified 39 individuals with adentia, which is 14.0 % of the total number of surveyed. The frequency of adentia had almost an equal gender distribution: boys with adentia accounted for 19 individuals (6.8%), girls with adentia accounted for 20 individuals (7.2 %). The results of epidemiological survey conducted in 2010 [7] showed the following frequency of adentia: 50 individuals (33.3 % of the total number of surveyed). So at the present stage there was a 2.37-fold ($p < 0.001$) decrease in the overall frequency of adentia.

This result could be associated with the improvement of therapeutic care and primary prevention of dental diseases.

The structure of adentia, subject to topography, according to epidemiological surveys conducted in 2019 and 2010 is presented in table 2.

Table 2

The structure of adentia under Kennedy classification

Year of research	Gender	Classes under Kennedy classification			
		1	2	3	4
2019	overall (n=39)	0 % (n=0)	5.1 % (n=2)	87.2 % (n=34)	7.7 % (n=3)
	boys (n=19)	0 % (n=0)	5.3 % (n=1)	84.2 % (n=16)	10.5 % (n=2)
	girls (n=20)	0 % (n=0)	5.0 % (n=1)	90.0 % (n=18)	5.0 % (n=1)
	P _{b-g}	>0.05	>0.05	>0.05	>0.05
2010 [7]	overall (n=50)	12.0 % (n=18)	16.0 % (n=24)	66.0 % (n=99)	6.0 % (n=9)
P _{ov2019-2010}		<0.05	>0.05	<0.05	>0.05

According to Kennedy classification, the structure of adenitis, subject to topography, was as follows: Class I – 0 %, Class II – 5.1 %, Class III – 87.2 %, Class IV – 7.7 %. It should be noted that there were no gender differences in the structure of adentia ($p > 0.05$).

A 2010 survey [7] showed the following distribution of adentia subject to topography: Class I – 12.0 %, Class II – 16.0 %, Class III – 66.0 %, Class IV – 6.0 %. Data comparison indicated a significant ($p < 0.05$) reduction of bilateral posterior defects and an increase ($p < 0.05$) of bounded posterior defects of the lateral section of dental arches and the relative permanence of frequency of dental arches defects in the anterior area.

The frequency of emergence of secondary deformations and the distribution of secondary deformations is presented in table 3.

Among individuals with adentia secondary deformations were determined in 25 persons, which made 64.1 %. Among them vertical deformations were detected in 4 individuals – 16.0 %; horizontal deformations were detected in 15 individuals – 60.0 %; mixed deformities were detected in 6 individuals – 24.0 %. Differences in the frequency and structure of secondary deformations between boys and girls ($p > 0.05$) were not found.

The comparison of data of epidemiological surveys conducted in 2010 and 2019 showed the increase ($p < 0.05$) of secondary deformations in 2019 and the change of its structure. Thus, in 2010, 40.0 % of secondary deformations were found in surveyed with adentia, and in 2019, 64.1 % were found. At the same time, the percentage of vertical deformations decreased significantly ($p < 0.05$) from 50.0 % in 2010 to 16.0 % in 2019.

Table 3

The frequency of emergence of secondary deformations and the distribution of secondary deformations

Year of research	Gender	Frequency of secondary deformations		
2019	overall (n=279)	64.1 % (n=25)		
	boys (n=137)	33.3 % (n=13)		
	girls (n=142)	30.8 % (n=12)		
	P _{b-g}	>0.05		
2010 [7]	overall (n=150)	40.0 % (n=20)		
P _{ov2019-2010}		<0.001		
Year of research	Gender	Secondary deformations		
		in a vertical plane	in a horizontal plane	mixed
2019	overall (n=25)	16.0 % (n=4)	60.0 % (n=15)	24.0 % (n=6)
	boys (n=13)	23.1 % (n=3)	53.8 % (n=7)	23.1 % (n=3)
	girls (n=12)	8.3 % (n=1)	66.7 % (n=8)	25.0 % (n=3)
	P _{b-g}	>0.05	>0.05	>0.05
2010 [7]	overall (n=20)	50.0 % (n=10)	40.0 % (n=8)	10.0 % (n=2)
P _{ov2019-2010}		<0.05	>0.05	>0.05

The survey revealed a total of 66 missing teeth. Thus, the average intensity of missing teeth per one surveyed with adentia was 1.69, meanwhile for men this indicator was not significantly higher 1.74 than for women 1.65.

The structure of adentia according to separate teeth is shown in table 4.

Table 4

The structure of adentia according to separate teeth

Tooth name	Number of extracted teeth	Percentage of extracted teeth to all missing teeth
18	1	1.5 %
17	1	1.5 %
16	4	6.1 %
15	0	0 %
14	2	3.0 %
13	0	0 %
12	2	3.0 %
11	0	0 %
21	0	0 %
22	2	3.0 %
23	1	1.5 %
24	3	4.5 %
25	2	3.0 %
26	6	9.1 %
27	0	0 %
28	0	0 %
38	0	0 %
37	3	4.5 %
36	12	18.2 %
35	3	4.5 %
34	2	3.0 %
33	0	0 %
32	1	1.5 %
31	0	0 %
41	0	0 %
42	1	1.5 %
43	0	0 %
44	1	1.5 %
45	4	6.1 %
46	12	18.2 %
47	2	3.0 %
48	1	1.5 %
Total	66	

In the structure of missing teeth the significant prevalence of adentia of the posterior group of teeth was indicated. The number of extracted teeth of the anterior group was 10.6 % (n=7) versus 89.4 % (n=59) of extracted teeth of the posterior group.

The distribution of missing tooth on the right and left side wasn't differ much: 53.0 % (n=35) of adentia cases were observed on the left side and 47.0 % (n=31) of adentia cases were observed on the right one.

The adentia of 36.4 % (n=24) of teeth of the maxilla and the adentia of 63.6 % (n=42) of teeth of the mandible were determined. That is, the frequency of adentia emergence on the mandible was two times higher than the one on the maxilla.

Among all adentia cases, more than a half 51.5 % (n=34) were about the first molars. Missing of the second premolars and the first molars accounted for 65.2 % (n=43). Thus, we noted that two thirds of patients were able to potentially receive orthodontic care aimed at the protraction of distal teeth toward the defect.

Changes of dental arches forms in secondary deformations and related formation of supra-occlusal contacts, laterotrusive or mesiotrusive contacts lead to a violation of synchronicity of muscle contraction, work of the elements of temporomandibular joint, removal of masticatory cycles towards the intact side of the jaw, medial, lateral or distal jaw displacement [5]. In addition, there is a decrease of occlusal vertical dimension and the emergence of related orthodontic pathology in cases of adentia [9]. As a result, it causes joint dysfunction and morphological changes in it [14].

The correlation between adentia and degenerative changes in the temporomandibular joint was determined. It is determined that the decrease of molar support as a result of adentia significantly affects the tissues of temporomandibular joint elements, whereas the number of lost teeth is less important [3].

Local changes caused by adentia do not allow providing sufficient prosthodontic care, and require a multidisciplinary approach to the rehabilitation of patients that includes prosthodontic, orthodontic, periodontal care [11].

Conclusions

1. It was found that the frequency of adentia among young people is 14.0 %, with no significant difference between gender groups. The intensity of missing teeth per one surveyed with adentia is 1.69. The comparison of frequency of adentia among young people in 2010 and 2019 revealed an almost 2.5-fold decrease in the incidence of this pathology. The comparison of structure of adentia in 2010 and 2019 revealed a change towards the relief of orthopedic pathology due to the significant decrease of adentia in the form of edentulous areas located posterior to the remaining natural teeth.

2. The comparison of frequency of secondary deformations in 2010 and 2019 revealed their increase in 2019 from 40.0 % to 64.1 % and the change of structure of secondary deformations.

3. In the structure of adentia there is a ninefold prevalence of adentia in the posterior area above the anterior one, a significant prevalence of adentia of the lower jaw. More than a half of adentia cases are those of the first molars (51.5 %). The frequency of adentia of the second premolars and the first molars is 65.2 %.

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Реферати

ЧАСТОТА, СТРУКТУРА ТА ДИНАМІКА РОЗВИТКУ АДЕНТИЙ І ПОВ'ЯЗАНИХ З НИМИ ВТОРИННИХ ДЕФОРМАЦІЙ ЗУБНИХ РЯДІВ У ОСІБ МОЛОДОГО ВІКУ

Беляев Е.В., Філімонов В.Ю., Дмитрієв М.О.,
Закалата Т.Р.

В рамках епідеміологічного обстеження стоматологічного здоров'я осіб молодого віку нами проаналізовані дані клінічного стоматологічного обстеження 137 юнаків і 142 дівчат, студентів стоматологічного факультету Вінницького національного медичного університету ім. М. І. Пирогова. Для порівняльного аналізу структури адентій нами були використані дані епідеміологічного дослідження, проведеного у 2010 році на базі кафедри ортопедичної стоматології. Статистичну обробку результатів проведено в ліцензійному пакеті "Statistica 6.0". Порівняння структури та частоти адентій у молодого населення у 2010 та 2019 роках виявило зменшення частоти даної патології. Слід також підкреслити зміну в структурі адентій за топографією в бік полегшення ортопедичної патології внаслідок значного зменшення дистально необмежених форм адентій. Виявлена значна частота вторинних деформацій у обстежених з переважанням горизонтальної форми. У структурі адентій відмічається дев'ятикратне переважання адентій в бічному відділі над фронтальним, значне переважання адентій на нижній щелепі.

Ключові слова: адентії, епідеміологія, вторинні деформації.

Стаття надійшла 28.06.2019 р.

ЧАСТОТА, СТРУКТУРА І ДИНАМІКА РОЗВИТКУ АДЕНТИЙ І СВ'ЯЗАНИХ С НИМИ ВТОРИННИХ ДЕФОРМАЦІЙ ЗУБНИХ РЯДІВ У ЛІЦ МОЛОДОГО ВОЗРАСТА

Беляев Э.В., Филимонов В.Ю., Дмитриев Н.А.,
Закалата Т.Р.

В рамках епідеміологічного обстеження стоматологічного здоров'я осіб молодого віку нами проаналізовані дані клінічного стоматологічного обстеження 137 юнаків і 142 дівчат, студентів стоматологічного факультету Вінницького національного медичного університету ім. Н. І. Пирогова. Для порівняльного аналізу структури адентій нами були використані дані епідеміологічного дослідження, проведеного у 2010 році на базі кафедри ортопедичної стоматології. Статистичну обробку результатів проведено в ліцензійному пакеті "Statistica 6.0". Порівняння структури та частоти адентій у молодого населення у 2010 та 2019 роках виявило зменшення частоти даної патології. Слід також підкреслити зміну в структурі адентій за топографією в бік полегшення ортопедичної патології внаслідок значного зменшення дистально необмежених форм адентій. Виявлена значна частота вторинних деформацій у обстежених з переважанням горизонтальної форми. У структурі адентій відмічається дев'ятикратне переважання адентій в бічному відділі над фронтальним, значне переважання адентій на нижній щелепі.

Ключевые слова: адентии, эпидемиология, вторичные деформации.

Рецензент Ткаченко П.І.

DOI 10.26724/2079-8334-2020-3-73-16-21

UDC 616.61-008.9-06:616.391-085.326-053.2

T.V. Budnik, L.V. Kvashnina¹

Shupyk National Medical Academy of Postgraduate Education, Kyiv

¹SI "Institute of Pediatrics, Obstetrics and Gynecology, NAMS of Ukraine", Kyiv

PROSPECTS FOR MINERAL METABOLIC DISORDERS CORRECTION IN CHILDREN WITH RECURRENT STATE OF URINARY TRACT INFECTION

e-mail: budniktania8@gmail.com

The purpose of the study was to establish the effectiveness of combined phyto-citrate compound in the treatment and prevention of recurrent urinary tract infections in children with saline dysmetabolism in the comparison groups. The study involved 33 children aged 6 to 18 years, patients with recurrent urinary tract infections in the acute exacerbation of the disease. According to the duration of combined phyto-citrate compound administration, children were divided into 2 groups: I (n=17) – received the drug in complex therapy of urinary tract infections for 1 month, II (n=16) – also received phyto-citrate compound in complex therapy for 1 month, but continued to take it to prevent urinary tract infections for the next 2 months in an intermittent mode for 10 days. The results of the study proved phyto-citrate effectiveness in the complex therapy of recurrent urinary tract infections in children on the background of saline dysmetabolism. Administration of this drug led to normalization of saline transport indicators in 82% (27/33) of patients (p<0.05) after the 1st month of treatment and reduced the risk of reinfection by 18 times: OR = 4.25±0.65 with 95% CI [1.18; 15.3] – before treatment and OR = 0.235±0.65 [0.066; 0.846] – after the first month of treatment (p<0.001). Prolonged intermittent administration of the drug for the next 2 months reduced the risk of recurrent episodes of urinary tract infections by 3.5 times: OR = 1.88±0.9 [0.302; 11.73] – in case of choosing a 1-month course of therapy and OR = 0.53±0.83 [0.085; 3.3], p<0.05 – as a result of preventive use of the combined phyto-citrate.

Key words: recurrent urinary tract infection, children, mineral dysmetabolism, combined phyto-citrate compound.

The work is a fragment of the research project "Study of the hyperuricemia treatment impact in patients with chronic kidney disease and justification of optimal therapy", state registration No. 0119U101718.

A comprehensive study of the factors contributing to the formation of recurrent urinary tract infections (UTIs) in children and analysis of their elimination effectiveness is undoubtedly one of the topical issues of clinical medicine [1].

Dysmetabolic nephropathy (DN) represents from 27% to 64% in the structure of the urinary system incidence in children, and in the daily practice of a pediatrician, the metabolic disorders syndrome in the