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METHODS OF DIAGNOSIS AND TREATMENT

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ANALYSIS OF FREQUENCY OF OCCURRENCE OF BACKGROUND AND PRECANCEROUS DISEASES OF A CERVIX BY RESULTS OF A PREVENTIVE AND DIAGNOSTIC CYTOLOGICAL TESTING

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ABSTRACT

The analysis of results of a cytological research in women aged from 18 up to 88 years as a method of early diagnosis of background and precancerous diseases of a cervix is carried out. The received results confirm the high predictive value of this method. Early detection and treatment of background and precancerous diseases of a cervix will promote real decrease in incidence and cervical cancer mortality.

Keywords: screening, oncocytology, diagnostics, dysplasia, cervical cancer.

Relevance

The cervical cancer (CC) is one of the most widespread oncological diseases of reproductive system of women: its specific weight fluctuates from 12 to 20% of all malignant tumours of a female genital [5]. Remaining in top three in structure of incidence of female reproductive organs after a breast cancer and endometrium and without yielding the position in structure of mortality where it takes the second place among oncological diseases at women, cervical cancer continues to cause irreplaceable damage in the most active layers of female population [13].

Annually in the world 528 thousand new patients with cervical cancer and 266 thousand deaths from this disease (7.9% of the total number of the women malignant tumours) are registered. Wide circulation of cervical cancer is noted in developing countries of which 78% of cases are the share, and his share reaches 15% of number of all malignant tumours at women (in the developed countries of 4.4%) [2].

Many authors note a certain staging and staging of pathological processes of a cervix in the course of carcinogenesis. Development of cervical cancer isn't lightning process: according to WHO data, on average 3-8 years, 10-15 more years undergo transition of a dysplasia to in situ cancer before development of microinvasive cancer and as much – before transition to a spread form [9].

Cervical cancer arises against the background of the benign processes which have received the name of background diseases which in itself aren't precancerous states more often, but on their background focal proliferative changes of an epithelium can develop. These processes differ in a big variety of pathological changes, each of them has morphological criteria. They can have the dyshormonal, inflammatory and post-traumatic cause [3, 10]. Precancerous processes consist of a dysplasia of various degrees.

Most often cervical cancer is revealed in the senior age group (60–70 years and more), however recently appears many publications describing cases of developing of this disease at women of reproductive age [3]. So, growth of incidence of cervical cancer among young women is noted: at the age of 15–24 years — by 4 times; 25–34 years — by 2,5 times [11,12]. Unfortunately, it should be noted that find in a considerable part of patients of cervical cancer already at late stages of a disease (III-IV) when the efficiency of modern methods of treatment sharply decreases [13].

In this regard early diagnosis and treatment of background and precancer diseases and also initial forms of cervical cancer, certainly, can be the important actions directed to decrease in cancer cases and reduction of number of the started forms [8].

Research objective: to study occurrence of background and precancerous diseases of a cervix and also their combination by results of a cytological research.

Materials and methods of a research

The analysis of cytological material of a cervix of 7600 women aged from 18 up to 88 years with the preventive and diagnostic purpose, during 2017 is carried out to laboratory of a pathomorphology, histology and cytology of Clinic of Medical institute of NEFU.

Material of a cytological research were smear from a mucous layer of cervix and the cervical channel. Age classification of Y.Y. Eliseev (2006) according to which persons of 18-29 years treat young age, 30-44 years to mature, 45-59 years – an average, 60-74 – by advanced age

[4] has been applied to identification of tendencies of epidemic process in various age groups.

Diagnostics was carried out by coloring of glasses by method of Romanovsky - Gimza. The cytological diagnosis was established according to clinicomorphological classification of Y.V. Bokhman (1976).

Results and discussion

The studied cytological material from 7600 women on age structure was distributed as follows: of 18 - 29 years - 2645 women (34,8%), of 30-44 years – 2315 women (30,4%), of 45-59 years – 1840 women (24,2%) and are also more senior 60 years – 800 women (10,5%).

It should be noted that very important factor of efficiency of screening of cervical cancer is the sensitivity of a cytological research. According to various authors it makes from 66% to 83%. The bad intake of material, in 10-30% - wrong interpretation of cytological data is the reason of false-negative answers in 70-90% of cases [10]. The most often not informative material is received at capture of dabs from the cervical channel; the absence in smear of cells of an endocervical epithelium is noted in 8-18% of cases. Thereof glandular and ferruterous and squamous cell cervical cancer are most often passed in screening [14]. In our research «material isn't informative» have made 143 cases (1,9%) and «the glandular epithelium isn't taken» - 1472 cases (19,4%) of total number of the studied women. What indicates prevalence of a human factor, such as bad intake of material, lack of the special tools guaranteeing capture of material from all zones, reception of the patient during periods and also dependence on climatic conditions.

The cytological conclusion of «Cytogramm without features» in case of receiving full-fledged material can be considered as the instruction on lack of pathological changes of cervix. According to us the «Cytogramm without features» group (estrogenic and atrophic type of smear) is in the lead and makes 34,7% (2640 women) of the total number of researches (Fig. 1).

Inflammatory processes are diagnosed for 2814 (37%) women. Which main share is the share of age of 18-29 years – 956 (34%) a case and 45-59 years - 728 (28,1%) a case. Various factors can be the reasons of inflammatory process of cervix (cervicitis): a bacterial imbalance, thinning of a multilayered flat epithelium in a postmenopause with accession of inflammatory process (an atrophic colpitis), various physical and chemical impacts, infections, etc. [8].

According to literary data [7] quite often meets at women of reproductive age dysbiosis vagina florae (not inflammatory infectious syndrome connected with dysbacteriosis of vaginal flora) and comes to light in 40-50% of cases. This tendency is traced also in our research. So, the maximum frequency of occurrence of a dysbiosis of flora (a bacterial vaginosis) is diagnosed for women at the age of 18-29 years - 740 women (40,7%) and 30-44 years – 693 women (38,2%). Today it is established that the bacterial vaginosis is also risk factor, and sometimes and one of the causes of heavy pathology of female genitals and complications of pregnancy and childbirth [1].

Now the greatest interest among infections, sexually transmitted, is represented by chlamydia and papillomavirus. It is connected partly with high frequency detection of these infections at gynecologic patients. Among patients with pathology of a cervix of a chlamydia are found in 40-49% of cases [6]. According to our data, in 47 cases (1.7%) indirect symptoms of chlamydiosis have been diagnosed. The largest frequency has been registered aged 30-44lt (38,3%). Data of a cytological research at detection of a chlamydial infection are approximate and have to be complemented with other methods of a research (the immunofluorescent analysis etc.).

In the last decades as a problem of virus carcinogenesis of cervical cancer the virus of papilloma of the person (HPV) has moved to the forefront [10]. Now more than 100 HPV various types from which 30 infect a genital path of the person [8] are identified. According to us, indirect symptoms of a viral infection are diagnosed for 689 patients and makes 24,5% of all background diseases with infectious agents. The maximum number is noted in age group of 18-29 years and 30-44 years - 269 (39%). It is recommended to these women to pass the HPV test. The method of the polymerase chain reaction (PCR) has the highest sensitivity, but we unfortunately don't possess data on control after treatment, in particular data of PCR. Full elimination of a virus meets at carriers with the good immune status. Disappearance effect of virus defeat at a repeated fence of dab at bearers of HPV is explained by it.

From modern positions pathological changes on a neck of the uterus can be divided into background, precancer (pretumoral) and tumoral processes. In clinical practice carry true erosion, pseudo-erosion to background diseases, a leukoplakia, an eritroplakia, polyposes, etc., to precancer – CIN II and CIN III.

Influence of a number of endogenous and exogenous hormones is the main reason for prevalence of background diseases at women of reproductive age. It is confirmed by numerous researches of other authors [8, 11]. Frequency of occurrence of pathologies of a cervix at the persons of various age groups is specified in Tab.

From Table it is visible that the highest rate of background diseases is the share of women in the age period of 30-44 years – 212 (37,6%) and 18-29 years - 187 (33,2%) women. By results of a cytological research by us it has been

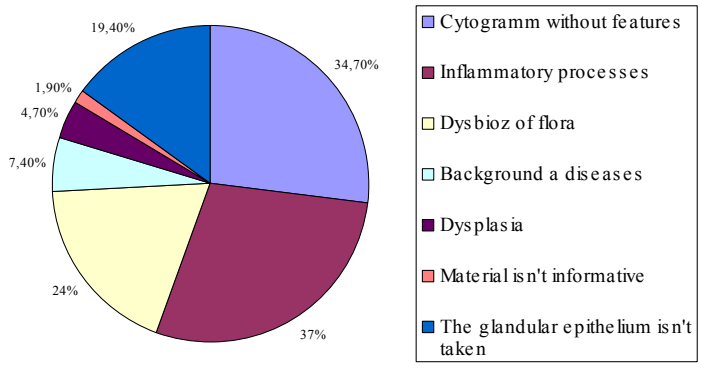

Fig. 1. Results of a cytological research.

Frequency of occurrence of background diseases of the cervix in different age groups, n (%)

	Age, years				TOTAL
	18-29	30-44	45-59	60 and over	
Hyperkeratosis of the flat epithelium	12 (30)	16 (40)	10 (25)	2 (5)	40 (7,1)
Squamous cell metaplasia, alternate cell hyperplasia	127 (30,4)	149 (35,7)	102 (24,5)	39 (9,3)	417 (74)
Proliferation of glandular epithelium	35 (51,5)	30 (44,1)	2 (2,9)	1 (1,5)	68 (12)
Hyperplasia of the type of dysplasia	13 (34,2)	17 (44,7)	7 (18,4)	1 (2,6)	38 (6,7)
	187 (33,2)	212 (37,6)	121 (21,5)	43 (7,6)	563 (7,4)

established that the most often diagnosed pathology of a neck of the uterus was the squamous cell metaplasy (a reserve and cellular hyperplasy) which makes 74%. The maximum frequency of occurrence is noted in age category of 30-44 years (35,7%) and 18-29 years (30,4%) that it is connected with intensive influence of sex hormones (estrogen) at women of active reproductive age. At 68 (12%) women there was a registered proliferation of a ferruterous epithelium was diagnosed much less often hyperkeratosis which has been found in 7,1% of cases of the total number of background diseases. At the same time, the maximum frequency of occurrence was noted by this pathology at the age of 30-44 years (40%).

Dysplasia of the cervix of varying severity have been revealed in 359 cases that has made 4,7% of total number of the studied women. Among them at 220 women (61,3%) the dysplasia of the CIN I, 84 women (24,5%) is revealed – (CIN II) and CIN III degree of a dysplasia 38 women had a dysplasia of the II degree registered that has made 10,6% of all dysplasia of a cervix in the examined group. At the same time the maximum number of dysplasia was noted in age group of 18-29 years (32%) and 30-44 years (33%). While, 87 (24,2%) cases it is revealed at women at the age of 45-59 years and 39 (11%) cases at the age of 60 years and is more senior. It should be noted that the high frequency of occurrence of a dysplasia of the I degree says that she can come to light also at inflammation of a cervix when at a cytological research reparative atypical cages – dysplasia equivalents are found. These phenomena often disappear after anti-inflammatory treatment [9].

According to our data, the analysis of frequency of occurrence of dysplasia depending on age (Fig. 2) has shown that in identical set met at women of fertile age (18-29 years and 30-44 years) a CIN I (19,7% and 19,2%) and CIN II (7,2% and 7,5%). At women at the age of 30-44 years the big frequency of detection of a CIN III (3,9%) was noted. CIN III with transition to cancer is diagnosed in 4 cases and has made 1,1%. At the same time, 2 (0,5%) a case it has been revealed at the age of 30-44 years and on 1 (0,3%) to a case at the age of 45-59 years and 60 years and is more senior. Cervical cancer cytological has been revealed in 2 cases and has made 0,5% of total number of the revealed dysplasia. Thus, the results received by us testify to the high frequency of occurrence of dysplasia at women of reproductive age.

It is known that contamination a HPV infection increases risk of development of a dysplasia by 10 times. In the examined group of women, the frequency of identification of a combination of dysplasia and indirect symptoms of a viral infection was 207 (57,6%) cases from all dysplasia in the examined group. Considering that in the conditions of Clinic of MI only primary cytological research is conducted, definite answer about interrelation of a dysplasia and carriage of a virus by results of our research can't be given. At identification of suspicion of pathology of cervix the patient has to pass the second stage of inspection (profound diagnostics).

For search of predictive signs of cellular proliferation with the adverse forecast for stages of early cellular changes the new technology of preparation of cytomedicines – liquid cytology gains ground now. Today the given method is the most informative in diagnostics of intraepithelial neoplasia, convenient as for the patient (a single intake of material) and for the doctor (a possibility of use of one material in various researches).

Conclusion

Thus, the results of a cytological research received by us quite will be coordinated with data of literature. At the present stage of development of clinical medicine identification not only initial stages of cancer, but also background and precancerous diseases as they most often meet at socially active group of women of reproductive age is important. Being one of the few nosological forms of malignant tumours, cervical cancer has the recognizable preclinical phase, the long period of development, in communication with what there are real opportunities for prevention of this disease of way of introduction to practical health care of reliable and highly effective screening programs.

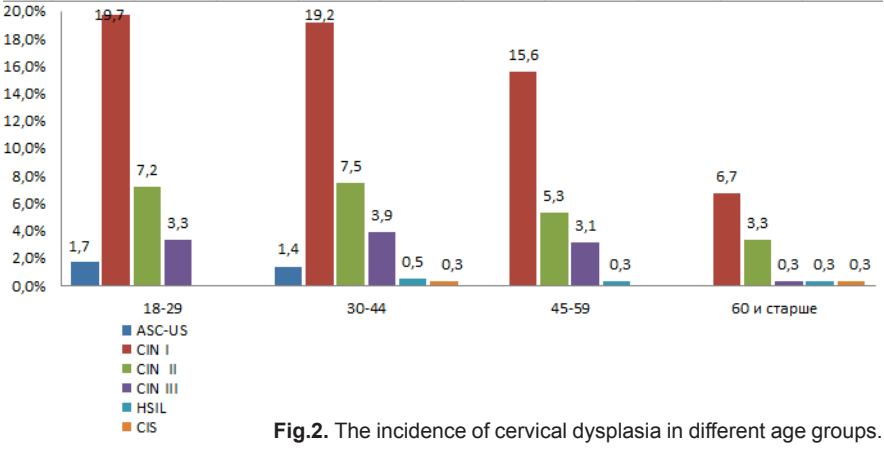

Fig.2. The incidence of cervical dysplasia in different age groups.

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ANALYSIS OF ORAL MICROFLORA IN CHILDREN

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ABSTRACT

To study the microflora of the oral cavity, 485 children and adolescents living in Yakutsk were examined. We've taken smears from the mucous throat and tonsils for microbiological analysis of the oral microflora, also used the method of rapid diagnosis - Streptatest, for the presence of b-hemolytic streptococcus of group A (BHSA). When studying the qualitative and quantitative composition of the oral microflora of frequently ill children, it was revealed that 16.3% are carriers of the pathogenic and conditionally pathogenic flora - a trigger factor in the development of chronic tonsillitis. In the examined children yeast fungi of the genus Candida were found - in 8,7%, bacteria of the genus Staphylococcus - in 1,3%, in the genus Streptococcus - in 7,5%, in the genus Klebsiella - in 1,3%. In 80% of the children in the crops, monoculture growth was detected. With abundant growth, 6.6% of microorganisms were detected, with moderate growth - 46.7% and with scant - 46.7%. As a result of the treatment, the children notice a shift in the anaerobic index to the normal range, which contributes to the provision of conditions for improving the life of the obligate microflora. In Children's Infectious Diseases Hospital (CIDH), children with acute tonsillopharyngitis, acute pharyngitis, and angina were examined. All patients underwent a rapid Streptatest test for the streptococcal etiology of the infection. According to the rapid test, 37% of patients were positive. Timely establishment of BHSA allowed conducting eradication antibacterial therapy, which led to recovery without complications. Streptatest can be widely used in the rapid diagnosis of streptococcal infection for the detection of BHSA in patients with angina and acute tonsillopharyngitis without age restrictions.

Keywords: children, microflora of the oral cavity, diagnostics, streptococcal infection.

Introduction

Normally, the microbial composition of the oral cavity is formed by various kinds of microorganisms: bacteria, viruses, protozoa. In a healthy organism, the constant microflora serves as a biological barrier, preventing the proliferation of pathogenic microorganisms coming from the external environment; participates in the self-cleaning of the oral cavity, is a constant stimulant of local immunity [1]. Persistent changes in the composition and properties of microflora due to a decrease in the reactivity of the organism, resistance of the mucous membrane of the oral cavity, as well as certain therapeutic measures, can lead to the appearance of various diseases of the oral cavity, the causative agents of which are pathogenic microorganisms from outside as well as conditionally pathogenic representatives of the constant microflora of the oral cavity [4].

To conditionally-pathogenic representatives of the constant microflora of the oral cavity the bacteria of anaerobic type of respiration, streptococci, constitute 30-60% of the whole microflora of the oropharynx. Streptococci caused streptococcal infection – a polymorphic in its clinical manifestations of bacterial infection. B-hemolitic streptococcus group A (BHSA) causes a wide range of diseases in childhood: streptococcal respiratory tract infections, tonsillitis, pharyngitis, their complications - cervical lymphadenitis, peritonsillar and zaglone abscesses, sinusitis, mastoiditis, otitis media, pneumonia, etc. [7, 10]. This is due to the anatomical location of the tonsils in the area of the airway cross and upper digestive tract, their constant traumatization and infection, as well as the age-related features of the child's immune system [5]. The peak incidence falls on the average and senior school age.

In recent decades, there has been a steady trend towards an increase in the incidence of chronic tonsillitis and its "rejuvenation" [6]. The starting factor of development are pathogenic or conditionally pathogenic microorganisms persisting in the lymphoid tissue of the tonsils due to a weakened antigen-spe-