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PECULIARITIES OF THE MICROFLORA OF BREAST MILK AND FACTORS OF NON-SPECIFIC RESISTANCE OF FEEDING WOMEN

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Absract

Date, it is believed that the natural feeding of the newborn is the most optimal and physiological for the full development of the newborn. Immunity against enterobacteria causing diarrheal diseases is mainly carried out by igm. This immunoglobulin does not cross the placenta, so babies are not protected against intestinal infections.

Relationship between microflora and the immune system, the aim of our work was to study the microbial landscape of breast milk of nursing women with a parallel study of the level of iga, g, m and siga in breast milk. 914 breast-milk samples of lactating women were studied in a bacteriological laboratory of center for urban sanitary and epidemiological surveillance and center for railway station sanitary and epidemiological surveillance of urgench city.

Key words

Igm. Igg, iga, , bacteriological research, microbial landscape, breast milk ,breast milk culture.

Natural breast milk, in addition o nutritional value, is of great and decisive importance in the formation of the normal microflora of the intestines of the newborn, and is also important in protecting the baby from infection (1,10,11,12).

Immunity against enterobacteria causing diarrheal diseases is mainly carried out by IgM. This immunoglobulin does not pass through the placenta; therefore, babies are not protected against intestinal infections (7,8). IgM deficiency is supplemented by the amount of IgG and IgA that passes into the infant's body with

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breast milk.In this regard, the study of non-specific protective factors that provide the main biological property of breast milk - protective, is very important.

There are absolute and relative contraindications to breast-feeding, in addition to this, the question of the possibility of infection of breast milk and, accordingly, the newborn remains open.Excluding the possibility of breast milk infection in case of purulent-inflammatorydiseases (PID) of the mammary gland (mastitis), in some cases, breast milk infection can only be associated with septic conditions of mothers (2,3,4,5,6).

In Uzbekistan significant proportion of children (more than 30% from 3-6 months of age) are on artificial feeding (1). According to our data, infectious disease doctors and pediatricians recommend bacteriological research of breast milk when children start to develop various pathological conditions.

Relationship between microflora and the immune system, the aim of our work was to study the microbial landscape of breast milk of breast-feeding women with a parallel study of the level of IgA, G, M, and secretory IgA (SIgA) in breast milk.

Materials and methods.3 years, 914 breast-milk samples of lactating women were studied in a bacteriological laboratory of Center for Urban Sanitary and Epidemiological surveillance and Center for Railway station Sanitary and Epidemiological surveillance of Urgench city. Breast milk was collected according to generally accepted recommendations, in compliance with asepsis rules.

Bacteriological research was conducted by traditional methods. The sowing of breast milk in solid nutrient media was carried out by the quantitative Gold method using the sector sowing method. Determination of the level of IgA, G, M and SIgA was carried out by the method of radial immunodiffusion according to Mancini (1964). Statistical processing of the results was carried out with the calculation of P, m, δ and the criterion t according to Fisher and Student.

Resultsanddiscussion. Analysis of the data on the appeal of breast-feeding women to bacteriological examination of breast milk correlates with the level of diarrheal diseases among infants.An increase in the number of positive bacteriological results is also noted.It should be especially noted that only 29.1 ± 1.7% of women had breast milk that was sterile.In 70% of cases, gram-positive cocci were sown, whereas S. aureus and S. epidermidis were sown in72.1 and 53.1% of cases accordingly.Isolation of coagulase-negative staphylococci from breast milk, in particular S. epidermidis, indicates that aseptic rules were not observed during the collection of material, since S. epidermidis, despite its belonging to the conditionally pathogenic group of bacteria, is a representative of normal microflora of the human body. A natural assumption is that the presence of coagulase-

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negative staphylococci in breast milk in the presence of a mastitis clinic indicates their etiological role in this process.The presence of S. aureus in breast milk undoubtedly indicates its etiology in the inflammatory process of the mammary gland.

Biological systems is characterized by non-linear correlation relationships. These correlations show the nature of the statistical relationship between the studied indicators. In our work, we noted the presence of a relationship with a correlation relationship greater than 0.5. The main goal was to determine the interspecific relationship between the isolated microbes from breast milk of lactating women and their relationship with the concentration of breast milk immunoglobulins.A bacteriological study of breast milk of the right and left mammary glands of lactating women, in the absence of PID, did not show significant differences in the quantitative and qualitative composition of microorganisms.An age-specific analysis of bacteriological studies of breast milk in lactating women is presented in table 1. Of all the indicators, the greatest difference is noted in the group of mothers of late reproductive age.

Table 1

Indicators of bacteriological studies of breast milk of lactating women (P ± m)

Age groups	Sterile breast milk %	Isolated microorganisms, %		**Ratio S. aureus to S. epidermidis, units.**
		S. aureus	S.epidermidis	
18-21 years old	27,3±1,6	20,7±1,4	52±1,9	1:2,51
22-29 years old	30,7±2,1	18,1±1,5	51,2±2,0	1:2,83
30-35 years old	25,5±1,9	12,7±1,8	61,2±2,2	1:4,86
36-49 years old	40±1,2	20±2,3	40±2,6	1:2
Total	29,2±1,7	17,2±1,8	53,1±2,2	1:2,98

Given the close relationship between the microflora of the human body and the immune system, we determined the level of Ig A, M, G, SIgA and the total microbial number (TMN).

Based on our own research and reference data, 5 groups were formed (table 2): I - women with clinically and laboratoryestablished mastitis (n = 30); II - a healthy mother - a child with diarrhea (n = 29); III - a healthy mother and a healthy child (n = 20); IV - a nursing mother with mastitis - a child with diarrhea (n = 20); V - a healthy mother and a healthy child in Tashkent (n = 10, control group).Groups I - IV were formed at the study site in Urgench. As can be seen from the table in

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groups I, II, and IV, the level of class G immunoglobulins exceeds similar indicators compared with groups III and V. IgA level is significantly high in groups I, III, IV, IgM is significantly reduced in groups I, II, III. SIgA is reduced in I-IV groups compared with the control group in Tashkent.

Table 2

THE LEVEL OF IMMUNOGLOBULINS IN BREAST MILK OF LACTATING WOMEN (IN MG / %.)

Groups		**IgG**	**IgA**	**IgM**	**SIgA**	**ОМЧ в lg КОЕ/мл**
I	30	342±1,6	108,8±0,5	164±0,9	360,6±2,3	834,7±46,8
II	29	385,7±2,8	80,7±0,4	160,9±0,6	430,5±4,2	1666,3±112,3
III	20	295,9±1,2	88,9±0,6	163,2±0,4	437,6±2,4	-
IV	20	326,3±2,3	87,5±0,4	176,6±0,9	343, ±1,5	1906,5±124,2
V	10	287,6±1,7	79,5±0,7	172,1±1,3	498,2±3,6	-

Thus, a decrease in the level of secretory IgA was noted in the group of women with mastitis, mothers of newborns with diarrhea. In the group, diarrhea of newborns and mother's mastitis convincingly shows and confirms the fact of reduction of one of the strong factors of local non-specific resistance - SIgA. The increased content of IgG in breast milk in the group of mothers with mastitis, in the group of healthy mother and diarrhea of the newborn, and in the group of diarrhea of the newborn and mastitis of the mothers indicate the presence of an infectious pathological process.We have traced a clear relationship between the total microbial number (TMN in log CFU / ml) in breast milk of lactating mothers with an imbalance in the level of immunoglobulins determined in the same biological material.

Conclusions:

1. In 29.2% of nursing mothers studied in the Khorezm region of Uzbekistan, breast milk is sterile.

2. The results of the studies demonstrate that in 69% of cases the microbial factor in breast milk was determined, which was characterized by gram-positive cocci.

3. Detection in breast milk in 53% of cases of S. epidermidis suggests the possibility of poor-quality collection of breast milk for bacteriological research.

4. There is a significant decrease in the level of SIgA in breast milk in all groups of the examined Khorezm region of Uzbekistan in comparison with the group of healthy mothers and healthy newborns in Tashkent. In all groups

examined in the Khorezm region of Uzbekistan, an increase in the level of IgA and IgG in breast milk was noted.

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