

EPIDEMIOLOGICAL STRUCTURES OF DIARRHEAL DISEASES IN THE KHOREZM REGION

Masharipova Sh.S.

Nurillaev R.R.

Matyakubova O.U.

Urgench branch of Tashkent Medical Academy, Urgench, Uzbekistan

Annotation. *The study of the etiological structure of intestinal diseases in the Kharezm region was based on a retrospective of the analyzed facts for more than 12 years, from 2010 to 2022. The study of the etiological structure revealed that Sh.Flexneri was identified in 80% of cases from the serovars of E.coli types 026,055 and 0111 were identified. S. Typhimurium was found in Salmonelle bacille in the most common enterobacteria.*

Key words: *diarrhea, ecology, shigella, salmonella, antibiotic, intestines.*

ЭПИДЕМИОЛОГИЧЕСКИЕ СТРУКТУРЫ ДИАРЕЙНЫХ ЗАБОЛЕВАНИЙ В ХОРЕЗМСКОЙ РЕГИОНЕ

Машарипова Ш.С.,

Нуриллаев Р.Р., Матякубова О.У.

Ургенчский филиал Ташкентской медицинской академии, г.Ургенч, Узбекистан

Аннотация. *Изучение этиологической структуры кишечных заболеваний на регионе Хорезма было основано на ретроспективе анализированных фактов более, чем за 12 лет, с 2010 по 2022 годы. Исследование этиологической структуры выявило, что Sh.Flexneri был идентифицирован в 80% случаев из сероваров E.coli были определены типы 026,055 и 0111. S.Typhimurium был найден в Salmonelle bacille в самых часто распространенных энтеробактериях.*

Ключевые слова: *диарея, экология, шигелла, сальмонелла, антибиотик, кишечник.*

XORAZM VILOYATIDA DIAREYALI KASALLIKLARNING EPIDEMIOLOGIK TUZILISHINING TAHLILI

Masharipova Sh.S., Nurillaev R.R., Matyakubova O.U.

Toshkent tibbiyot akademiyasining Urganch filiali, Urganch shahri, O'zbekiston

Annotatsiya. *Xorazm viloyatida ichak kasalliklarining etiologik tuzilishini o'rganish 2010 yildan 2022 yilgacha bo'lgan 12 yildan ortiq vaqt davomida tahlil qilingan faktlarning*

retrospektiviga asoslangan. Etiologik tuzilishini o'rganish natijasida 80% hollarda E.coli 026,055 va 0111 turdagi serovarlardan Sh.Flexneri aniqlanganligi aniqlandi. Ko'p uchraydigan enterobakteriyalarda S.Typhimurium salmonelle tayoqchasida topilgan.

Kalit so'zlar: *diareya, ekologiya, shigella, salmonella, antibiotik, ichak.*

Diarrhea is one of the most common bowel dysfunctions. According to WHO, diarrheal diseases cause more than 2 million deaths per year. Therefore, the issues of pathogenesis, diagnosis and treatment of diseases occurring with this intestinal dysfunction do not lose their relevance. Any diarrhea is a clinical manifestation of the predominance of water and electrolyte secretion over absorption in the intestine. The ability of the small and large intestines to absorb water and electrolytes is surprising in its complexity and precision in achieving the final result. A person consumes about 2 liters of water daily with food. The volume of endogenous fluid entering the intestinal cavity as part of digestive secretions reaches an average of 7 liters. From 70 to 80% of it is absorbed in the small intestine. From 1 to 2 liters of water enters the colon during the day, 90% of it is absorbed and only 100-200 ml is lost with feces. Even a small change in the volume of fluid in the stool leads to constipation or diarrhea. The creation of new laboratory methods and their implementation in practice gives us a chance to discover the etiological factors of infectious diseases. But humanity is still far from completely defeating infectious diseases. In the Republic of Uzbekistan, in a region with a hot climate, there is a decrease in diarrheal diseases, but the incidence among children remains high. Khorezm region is located in the northern part of the Republic of Uzbekistan, in the last 50 years in the Khorezm region, due to the drying of the Aral Sea, an increase in the concentration of heavy metal salts and various organic compounds in the composition of flowing waters and in the ground has been observed in the ecosystem. This in turn increases the morbidity of the population of the Khorezm region. The main task of infectology at the present time is to study acute diarrheal diseases and their complications, causes of occurrence and mortality. It is known that infectious diseases are formed due to the virulence of the pathogen, toxicity, immunogenicity, resistance of microorganisms, direct action of the external environment and resistance to antibiotics. In particular, the causative agents of diarrheal diseases are being studied, the definition of new antibiotics that are polyresistant to salmonella and shigella. It is difficult to study these diseases from all sides in the Khorezm region, the determination of the properties of the pathogen is determined by complications of the consequences of diseases and the mortality rate is not fully solved.

The purpose of the study: To study the features of the etiological structure of acute diarrheal diseases in the Khorezm region.

Materials and methods. To study the etiological structure of acute diarrheal diseases in the Khorezm region, we retrospectively analyzed the material of the bacteriological service of the Khorezm region for 12 years (2010-2022). The material is taken from the

report of the bacteriological laboratories of the region, the journal of registration of grown and isolated cultures. Statistical processing of the material was carried out by Student and Fisher.

Results and discussions. During the analyzed period, 3755 shigella were isolated, of which 116 (4.4%) strains were identified as Sh.Dysenteriae, 3040 (80%)-Sh.Boydii. At the same time, it was noted that in recent years the specific gravity of Sh.Flexneri has significantly increased, compared with other shigella species. So if in 2022 Sh.Flexneri accounted for 72% of all shigella, then in 2022 this figure reached 94%. The isolation of Sh.Dysenteriae and Sh.Boydii began to decrease from 2015 and by 2010-2022 they were isolated in isolated cases. A similar pattern was observed with respect to Sh.Sonni, so if in 2010-2022 Sh.Sonni among all shigella accounted for 23%, then in 2019 this indicator decreased to 2.1%. The total seeding rate of shigella compared to 2012-2014, in 2016 decreased by 4.4 and 5.9 times. The study of the antigenic structure of shigella showed that in each species there were dominant antigenic variants. Thus, among Sh.Dysenteria, almost half (53 out of 116) belonged to Serovar 1, as well as among Sh.Flexneri more than serovar 1. In Sh.Flexneri, serovar 2a (27.9%) and serovar 6 (27.6%) were detected in more than half of the cases. Among other serovars stand out for (8.6%) t 2b (6.7%). The analysis of the frequency of detection of different serovars and subserovars of shigella in different years did not reveal a pronounced trend towards an increase in different serovars in dynamics, although fluctuations in their specific gravity in different years were quite high. Thus, the detection rate of Sh.Flexneri subserovar 2a ranged from 18.2 to 34.9% of serovar 6 from 20.3% to 40%, subserovar 3a from 3.2% to 16.6, subserovar 2b from 1.9% to 12.5% and so on.

The results of serotyping of diareogenic E.Coli showed that enteropathogenic E. Coli serovariants prevailed in our region, accounting for 90.6% of strains; 797 strains (9.4%) belonged to serogroup 0124 (enteroinvasive E.Coli), enterotaxigenic and enteroimorogic E. Coli were not detected by us. Serovars 026,055,0111 (enteropathogenic E. Coli) sharply prevailed over other serovars, being found in 58.8% of the samples studied. Most often, the causative agents of acute diarrheal diseases were serogroups 055 (24.9%), 0111 the specific gravity of the serogroup 0126 (6%), 020 (5,3%), 044 (4,8%) and 0151 (4.8%). The leading serovar of salmonella causing acute diarrheal diseases S. Typhimurium dominated almost all the years of follow-up and in total salmonella amounted to 91.7%. In the first year of observation (2010-2015), S. Heidelberg was also detected (3.4%), in later periods S. Enteritidis (1.7%); other serovars were sown in isolated cases and in the total amount for 12 years did not exceed 1%. At the same time, attention is drawn to the fact that in some years some of the rare serovars dominated. So, in 2016, 10 strains of S. Derby (2.5%) were isolated, in 2017 12 strains of S.Stanley (3.8%). Considering that conditionally pathogenic bacteria (UPB) have the greatest etiological significance in acute diarrheal diseases in children, we analyzed their dynamics. A total of 14927 strains of UPB were isolated during the

observation period. Of these, representatives of the Enterobacteria family were 13534 (49%); St.aureus 1316 (8.8%); a group of non-fermenting gram-negative bacteria 77 (0.5%). When considering the generic structure of the identified enterobacteria causative agents of acute diarrheal diseases, it was found that the highest percentage of excretion was in proteus (34% of all UPB). The detectability of enterobacteria (20%) and citrobacteria (18%) was almost at the same level, Klebsiella was sown in 14% of cases. The remaining representatives of UPB were detected less frequently from 0.1% to 2.3%. Analysis of these data in the dynamics of observation showed that there were no significant differences in the frequency of detection of various representatives of this group of bacteria.

Conclusions:

A retrospective analysis of the bacteriological study of pathogens showed that the most significant place in their etiology is occupied by UPB, mainly enterobacteria. Enteropathogenic, diarrheogenic E.Coli prevailed among pathogenic intestinal bacteria, in particular serovars 026, 055, 0111. The specific gravity of shigella was at the lowest level and tends to constantly decrease.

The establishment of the etiological factor of acute diarrheal diseases in patients living in the Kharezm region shows the following: Sh.Flexneri was sown in 80% of cases, while in 27.9% of cases sub-serovars were caused, and in 27.6% serovar 6. Of serovars E.Coli were sown 026 (11,3%), 055 (24,9%) and 0111 (22.6%) and as conditionally pathogenic enterobacteria Proteus (34%).

LITERATURE:

1. Guerrant R., Gilder T., Steiner T. et al. Practice Guidelines for the Management of Infectious Diarrhea // Clin. Infect. Dis. 2001; 32: 331-350.
2. Marignani M., Angeletti S., Delle Fave G. Acute infectious diarrhea. N Engl J Med. 2004 Apr 8; 350 (15): 1576-7; author reply 1576-7.
3. Inyckyi A. Clinical evaluation and management of acute infectious diarrhea in adults. Gastroenterol Clin North Am 2001; 30:599-609.
4. Centers for Disease Control and Prevention (CDC) // MMWR Morb Mortal Wkly Rep 2008 Nov.; 57 (46): 1255-7.
5. Parashar Umesh D. et al. Rotavirus // Emerging infectious diseases 2003; 4: 561-570.
6. Cortese M.M., Parashar U.D. // Centers for Disease Control and Prevention (CDC) // MMWR Recomm Rep. 2009 Feb; 6; 58 (RR-2): 1-25.
7. Patrzalek M., Patrzalek M.P. The cases of rotaviral diarrhea from... // Przegl Epidemiol 2008; 62 (3): 557-63