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A RETROSPECTIVE ANALYSIS OF INFECTIOUS BOWEL DISEASE INFORMATION

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ABSTRACT: In the bacteriological laboratory of the Children's Infectious Diseases Hospital, we presented the results of the bacteriological method for the diagnosis of infectious intestinal diseases, and for the bacteriological diagnosis of patients suspected of infectious intestinal diseases, we used the methodological criteria compiled by Student and Fisher in the modification of Ermoleva in the statistical processing of the obtained results.

Key words: colienteritis, salmonellosis, typhimurium, Escherichia coli, GPB, GPA, enteritidis.

The results of the bacteriological method in the diagnosis of infectious intestinal diseases in the bacteriological laboratory of the Children's Infectious Diseases Hospital of Termiz are presented in the implementation of the goals and tasks set before us. For this, 173 patients were examined for infectious intestinal diseases in 2022-2023, and 122 of them were diagnosed, of which 67% were choleenteritis and 33% were salmonellosis. In salmonellosis, the etiological factor was 9% S enteritidis and 27% S typhimurium. Therefore, 79 E.coli (67%) and 30 S. typhimurium (27%) strains were obtained in our research.

BACTERIOLOGICAL METHODS: Stools of patients with suspected infectious intestinal diseases were taken for bacteriological diagnosis. Bacteriological diagnosis of colienteritis: the patient's feces can be taken and cultured on GPA, GPB, Endo, Clark, Levin media. Medium pH 7.2-7.6, growth temperature 37˚C, growth range 14-42˚C. It is placed in the thermostat for 18-24 hours. Endo medium is a differential diagnostic medium for E.coli. Because only E.coli breaks down lactose among intestinal bacteria, lactose, Andrede's reagent is added to this medium. When E.coli breaks down lactose, the acid released breaks the bond in Andrede's reagent, resulting in fuchsin being released freely and staining the colony its own color. This is why E.coli forms a shiny, red, metallic colony on Endo's medium. In other environments, E.coli produces colorless S colonies. Therefore, the red metallic shiny S colonies were suspected to be E.coli, removed from this colony and re-inoculated into Russell's medium in order to isolate a pure culture, and placed in a thermostat at 37°C for 18-24 hours. . A smear was prepared from the culture grown in Russell's medium and checked for purity by Gramm staining. Gram-negative smear (red-pink color), the appearance of rods of the same shape was taken as a pure culture. Then the isolated pure culture was identified according to biochemical, antigenicity, phagotyping, sensitivity to antibiotics in order to determine the type.

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To determine the biochemical characteristics: 1. Planted in Hiss medium (colored row) and kept in a thermostat for 1 day. Gases break down carbohydrates in the environment to form acid and gas. 2. It was planted in GPB and placed in a thermostat for 1 day to determine its protein-degrading properties. Decomposes protein to form H_2S and indole. Based on these properties, it was confirmed as an E. coli strain.

Determination of serogroup: we determined the antigen structure and serogroups of the isolated strain with special O and N diagnostic sera.

Bacteriological diagnosis of salmonellosis: the patient's stool is cultured on Endo, Ploskirev media. The pH of the environment is 7.2-7.6. It was placed in a thermostat at 370°C for 18-24 hours, we marked the suspicious one (smooth, colorless S-colony) from the grown kaolinia, planted it in Ressel's medium and grew it again in a thermostat at 370°C for 18-24 hours. When we made a smear from the growing culture, stained it with the gram method, and looked at it under a microscope, the appearance of gram-negative small rod-shaped microorganisms confirmed the isolation of a pure culture of salmonella. The separated pure culture was identified according to biochemical, antigenicity, phagotyping, sensitivity to antibiotics in order to determine the type.

Determining the biochemical properties of Salmonella: 1. When we test the enzymatic properties of isolated pure culture by planting it in Giss medium, they break down carbohydrates to acid, and some types produce acid and gas. 2.Inoculated on GPB, no indole was formed and some produced H_2S when the protein degradation properties were studied. In order to determine the serogroup, we performed an agglutination reaction with a pure culture isolated using special O and N diagnosticum sera. We determined the type of salmonella by comparing the results of all tests with the results of standard strains.

Disc diffusion method was used to determine antibiotic sensitivity of 79 pathogenic E. coli and 30 S. typhimurium strains isolated from patients. The results were determined according to the recommendations (Methodological manual, MUK 4.2 1890-04; Moscow, 2004) based on the diameter (mm) of the growth zone of each strain, corresponding to different antibiotics. In order to determine the sensitivity to antibiotics, nutrient media were selected taking into account the requirements of E.coli and S. typhimurium strains (GPA-meat peptone agar, Endo medium).

To determine the sensitivity of isolated strains to antibiotics by the "Disc diffusion" method, 10 ml of dissolved agar specific for each microorganism was placed in a sterile Petri dish. After solidification of the agar in the Petri dish, the supernatant pure culture was inoculated using a coil as a snake trace. Then, with sterile tweezers, paper discs soaked with antibiotics were placed on the agar surface at a distance of 3-4 cm from each other (5 discs should be placed in each Petri dish). Cultures are grown and Petri dishes with paper discs soaked in antibiotics are placed in a thermostat at 37°C for 24 hours. The result was determined by measuring the diameter of the no-growth zone (the distance from the border of the antibiotic-soaked paper disc to the area of growth) around each antibiotic-soaked paper disc using a ruler. The results were based on the guidelines of the WHO (Methodological manual, MUK 4.2 1890-04; Moscow, 2004), that is, if the distance is up to 10 mm - the microbe is not sensitive to this drug (antibiotic), the distance is more than 10 mm in diameter If it is up to 20 mm - the microbe is sensitive to this antibiotic, if it is 20 mm or more - the studied microbe is considered to be highly sensitive to this antibiotic.

30 each of antibiotic-susceptible and resistant strains of pathogenic Escherichia coli serotonin were taken, streaked on nutrient agar in Petri dishes, and then the corresponding bacteriophage was inoculated. After 6-8 and 18-20 hours of incubation in a 37ºC thermostat, the

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results were recorded according to the presence or absence of lysis of the cultures where the bacteriophage was inoculated.

STATISTICAL METHODS: In the statistical processing of the obtained results, we used the methodological criteria compiled by Student and Fisher in Ermoleva's modification. Arithmetic average quantity (M), average quantity error (m), reliability criterion (t) and correlation coefficient were determined in it. The correlation coefficient was determined by Spearman's method (quadratic).

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