BACTERIAL DYSENTERY DISEASE GENERAL DESCRIPTION, EPIDEMIOLOGY, PREVENTION AND MEASURES AGAINST EPIDEMICS

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Abstract: *Shigellosis (**bacterial dysentery**) is an anthroponotic infectious disease with a fecal-oral transmission mechanism. It is caused by bacteria of the genus Shigella, and occurs in acute and chronic forms. It is characterized by manifestations of general intoxication with fever and signs of inflammation of the gastrointestinal tract (mainly the distal colon in the form of spastic hemocolitis).*

This article describes the general description of shigellosis, their etiology, epidemiology, diagnostic and treatment methods, as well as ways to improve preventive and anti-epidemic measures. The article analyzes the main trends in reducing the spread of infectious diseases based on world experience and modern approaches.

Keywords: *Shigellosis, infectious diseases, etiology, epidemiology, prevention, anti-epidemic measures.*

Content of the article.

Introduction: Shigellosis (**bacterial dysentery**) is an anthroponotic infectious disease with a fecal-oral transmission mechanism. It is caused by bacteria of the genus Shigella, and occurs in acute and chronic forms. It is characterized by manifestations of general intoxication with fever and signs of inflammation of the gastrointestinal tract (mainly the distal colon in the form of spastic hemocolitis).

Etiology: The causative agents of shigellosis are non-motile gram-negative bacteria of the genus Shigella of the family Enterobacteriaceae, which belong to

facultative aerobes; they grow well on conventional nutrient media, forming S- and R-colonies.

All shigella grow well on differential diagnostic media. The temperature optimum is 37°C, shigella Sonne can reproduce at 10-15°C. Pathogens are distinguished by antigen structure, biochemical activity, pathogenicity and virulence.

Bacterial virulence is quite variable. It is quite high in Shigella flexneri, especially subserotype 2a, and is least expressed in Shigella sonnei. One of the most important indicators of bacterial virulence is invasive proteins, which determine the ability of pathogens to intracellular parasitism in colonocytes, enterocytes (to a lesser extent) and macrophages. The degree of biochemical activity of shigella is inversely proportional to their virulence. The deficiency of virulence in shigella sonnei is fully compensated by their high enzymatic activity, unpretentiousness to the composition of nutrient media and the rate of reproduction in the infected substrate.

The mechanism of development of the epidemic process

The reservoir and source of infection is a person (patient with acute or chronic dysentery, a convalescent or transient carrier). The greatest danger is posed by patients with mild and latent forms of dysentery, especially those working in the food industry and persons equivalent to them.

Period of infectiousness. Shigella begin to be excreted from the human body at the first symptoms of the disease; the duration of excretion is 7-10 days and the period of reconvalescence (on average 2-3 weeks). Sometimes the excretion of bacteria is delayed for several weeks or months. The tendency to chronicity of the infectious process is most characteristic of Flexner's dysentery, and least characteristic of Sonne's dysentery.

The transmission mechanism is fecal-oral Transmission routes and factors: water, food and contact-household. In Grigoriev-Shiga dysentery, the main route of transmission is contact-household, which ensures the transmission of highly virulent pathogens. In Flexner's dysentery, the main route of transmission is water, in Sonne's dysentery - food. Sonne's Shigella have biological advantages over other types of Shigella. Inferior to them in virulence, they are more resistant in the external environment, under favorable conditions they can even multiply in milk and dairy products, which increases their danger. The incubation period for acute dysentery ranges from 1 to 7 days, averaging 2–3 days.

Preventive and epidemic control measures

The widespread occurrence of shigellosis, as well as other intestinal infections, is due to people living in unsanitary housing conditions, customs and prejudices that contradict basic sanitary standards, poor-quality water supply, poor nutrition against the background of an extremely low level of general and sanitary culture and medical care for the population.

For preventive purposes, clinical laboratory examinations and restrictive measures are carried out among certain groups of the population. A single laboratory examination is required for persons applicant for work in:

1) food production enterprises,public catering establishments and trade facilities selling food products, milk kitchens, dairy farms, dairy plants and others directly involved in the processing, storage, transportation of food products and delivery of prepared food, as well as the repair of inventory and equipment;

2) organizations for the education and training, recreation and health improvement of children and medical organizations involved in the direct service and nutrition of children;

3) organizations operating water supply structures, delivery and storage of drinking water.

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