

## EPIDEMIOLOGY OF PARASITIC DISEASES.

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**Summary.** Helminthiasis constitutes the largest group of parasitic diseases. They are caused by parasitic worms or helminths. More than 250 species of helminths have been registered in humans. Of this number, about 30 are common human parasites and form foci with significant infestation, and the rest are animal helminths that infect humans more or less accidentally.

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Helminths are parasitic multicellular organisms that belong to the lower worms of the type Scolecida (Scolecida).

In the human body, there are mainly 2 types of helminths: flatworms (Plathelminthes) and roundworms (Nemathelminthes). The most common types of helminths in humans belong to the following classes: trematodes or flukes (Trematoda) cestodes or tapeworms (Cestoda); nematodes or roundworms (Nematoda).

The epidemiological features of helminthiasis are determined by the biological characteristics of the helminths.

Non-contagiousness of helminthiasis. An infected person is generally not contagious to others (exceptions include enterobiasis, hymenolipodosis; sometimes - taeniasis, strongyloidiasis).

Slowness of the spread of helminthiasis. It takes a considerable amount of time to complete one full cycle of helminth development, or one turnover of the invasion (the time required for development from one stage to the same stage of the next generation).

Therefore, when sources of invasion appear in a previously free area, the invasion slowly affects the local population over a period of months or years. Helminthiasis usually exists in the form of endemia, when the incidence remains at a constant level for a more or less indefinite period of time.

Epidemic outbreaks are rare, and are generally caused by the simultaneous infection of a large number of non-immune individuals through a common transmission factor. Such outbreaks are common in trichinellosis.

Geographical confinement of helminthiasis. Due to the parasite's need for certain ecological conditions, the territorial distribution of helminthiasis is usually limited.

The limiting factors here are abiotic (temperature, humidity, chemical and physical composition of soils, water mineralization, etc.) and biotic (the presence of certain hosts in the fauna, their numbers, life expectancy, etc.) factors.

Social confinement of helminthiasis. Helminthiasis affects the population of a given region unevenly. Usually, high prevalence is observed in population groups whose living and cultural standards are low.

Since social factors are closely interrelated, it is sometimes impossible to single out any one of them that directly causes an increased risk of infection with helminthiasis.

Age distribution of helminthiasis. In foci with a significant spread of any invasion, the curve of age distribution of the incidence usually has a very characteristic shape; low or zero incidence of infants, a sharp increase in incidence in preschoolers, a peak in schoolchildren, usually younger, then a decrease, but not to zero, in adults

This distribution is due to two reasons: a change in the risk of infection depending on age (preschoolers are at the highest risk of infection due to a lack of hygiene skills) and the development of relative immunity in schoolchildren and adults. However, in specific conditions there may be deviations from this distribution.

Geohelminthiasis is an invasion, the pathogens of which develop directly (without the participation of an intermediate host) and are transmitted to humans through elements of the external environment (soil, vegetables, berries, etc.) contaminated with invasive eggs (larvae).

Biohelminthiasis - helminthiasis, the pathogens of which develop with the participation of intermediate hosts, are transmitted to humans through the body tissues of the latter.

Contact helminthiasis - helminthiasis, the pathogens of which develop in close proximity to humans and are transmitted through the hands of the patient or objects surrounding him.

Measures in relation to the source of invasion.

1. Identification of patients and carriers of pathogens of parasitic diseases is carried out by medical and preventive institutions (MPI), as well as individuals engaged in private medical practice:

- when seeking and providing medical care;
- during preventive, routine, preliminary examinations, upon employment during periodic examinations and inspections in the established manner.

2. Each case of illness or carriage of pathogens of parasitic diseases is subject to registration and accounting in healthcare facilities, as well as by persons engaged in private medical practice, in the established manner.

3. Scheduled preventive examinations for contact helminthiasis and intestinal protozoa of children and service personnel in groups where there are children of preschool and primary school age are carried out once a year (after the summer period, when forming a group) and (or) according to epidemiological indications in agreement with Rospotrebnadzor.

Collection of material for testing for helminthiasis and intestinal protozoa is carried out by medical workers (nurses) of children's and (or) healthcare facilities.

4. The study of material for helminthiasis and intestinal protozoa is carried out in clinical diagnostic laboratories of healthcare institutions, Rospotrebnadzor institutions and other laboratories operating in accordance with the established procedure.

5. Healthcare institutions, as well as individuals engaged in private medical practice, send information on the results of identifying patients and carriers of pathogens of parasitic diseases in the established manner to territorial centers.

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