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# THE PROBLEM OF MODERN INFECTIONS IN MEDICINE

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**Abstract:**

Infectious diseases arose long before the appearance of man. There are traces of osteomyelitis on the bones of dinosaurs, mammoths, cave bears and other ancient animals. Of the human ancestors, infectious bone lesions were noted in pithecanthropes from the island of Java, who lived 1-2 million years ago. Thus, mankind at the dawn of its existence met with numerous infectious diseases. Obviously, in terms of quantity, total mass, reproduction rate and duration of existence on Earth, bacteria absolutely surpass humans. That is why, as society emerged and the social way of life of a person developed, many infections became widespread. In general, three historical stages of the relationship between mankind and infections can be distinguished.

**Keywords:****Introduction**

The first stage was characterized by nothing limited, except for the natural stability of the human body, the widespread spread of "plague" or "general" contagious diseases. The second stage took place in the 19th century, when awareness of the essence of contagious diseases and the discovery of their pathogens began; the first scientifically based measures to counteract infections appeared. It was then that the prerequisites were created for the successful development of all the main branches of infectology: microbiology, epidemiology and infectious diseases proper as an independent clinical discipline and a new clinical specialty. The third stage began in the 20th century and was marked by an unprecedented active struggle against infectious diseases. The outstanding successes of microbiology and the creation of effective antibacterial drugs - first sulfonamides, and then antibiotics - coupled with the development of epidemiology and the creation of vaccines by the middle of the 20th century gave rise to the illusion of the possibility of the complete eradication of infectious diseases in the country and on the entire planet.

Indeed, epidemics of plague, cholera, typhoid and typhus that had raged for many centuries were curbed, natural smallpox was eliminated, the incidence of poliomyelitis, measles, whooping cough, mumps, diphtheria significantly decreased. The lethality from infectious diseases has decreased: with especially dangerous infections by 10 times, and with some others - by 100 times or more. In many ways, these successes were due to fundamental scientific research. So, in the 20th century, 23 Nobel Prizes were awarded for work in the field of infectious pathology, only in the last 40 years - 9 prizes for discoveries in the field of virology (mainly oncovirology) and 6 - in the field of immunology. In 2005, awards were presented for work on the study of the effect of the bacterium *Helicobacter pylori* on the occurrence of gastritis and gastric and duodenal ulcers, in 2008 - for the discovery of the human papillomavirus that causes cervical cancer, as well as for the discovery of the human immunodeficiency virus. Significant achievements include the formation of the

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doctrine of sapronoses, the discovery of prions as a fundamentally new class of infectious diseases, as well as uncultivated forms of bacteria.

However, unfortunately, in practice, many far-reaching plans to combat infections were not destined to come true. Defects in the organization and conduct of vaccination, socio-economic cataclysms and difficulties, as well as a number of other objective and subjective factors led to a deterioration in the epidemiological situation and serious epidemics. At the same time, the widespread and uncontrolled use of etiotropic drugs quickly caused the emergence of resistant and atypical forms of most of the actual pathogens of infectious diseases. A race began to create more and more anti-bacterial drugs, most of which quickly became ineffective. The same fate awaited the antiviral agents that appeared in the last quarter of the 20th century.

Infectious and parasitic diseases account for 25% of all deaths in the world (more than 50 million annually), and taking into account the role of infection in the pathogenesis of "non-infectious" diseases, almost 35%. In Russia, from 30 to 50 million cases of infectious diseases are registered annually. Every third case and every fifth day of temporary disability due to illness is associated with an infectious pathology. Direct and indirect losses from infections, taking into account disability, amount to more than 1.5 trillion rubles.

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