SCIENTIFIC BASIS OF CURRENT ISSUES OF EPIDEMIOLOGY

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ABSTRACT

Substantiation of the third section of epidemiology - the epidemiology of artificial epidemic processes and other deliberately caused biological lesions (incorrect epidemiology). The article provides evidence that the epidemiology, etiology and clinic of natural and artificially caused epidemics (outbreaks) and other massive artificial injuries of the population of biological nature have fundamental differences. And if the artificial nature of the epidemic (outbreak) of an infectious disease is not revealed in a timely manner, then attempts to interrupt it by influencing the links of the classical triad of the epidemic process will be ineffective.

Key words: epidemiology, infection, chronic gastritis,nosogeography**.**

The modern division of epidemiology into general and particular sections was formed more than 100 years ago, when the role of microorganisms in the development of epidemic processes was established and there was no threat of artificial epidemics caused by the use of biological weapons (BW) or acts of bioterror. However, over the past years, epidemic threats have changed qualitatively. Firstly, which began in the 1930s. the biological arms race has made it possible for a number of developed countries to accumulate experience in the creation and use of BW. Second, the so-called "mail epidemic" of anthrax, which broke out in the fall of 2001 in the United States, showed that there are forces in the world that are capable of professionally carrying out bioterrorist acts within the framework of indirect action strategies, while remaining unidentified1. Third, at present, the methods and means of biological destruction of people in their capabilities have gone far beyond the epidemic processes, which are objects of study of general and private epidemiology.[6] Therefore, the purpose of this work is to substantiate a new branch of epidemiology - the epidemiology of artificial epidemic processes and other deliberately caused biological lesions (incorrect epidemiology) 2, capable of developing approaches to their recognition and elimination of consequences.

Epidemiology today, thanks to the works of both domestic and foreign scientists, has become one of the most dynamically developing sciences [1, 3, 8]. As you know, the formation of new branches of knowledge occurs through differentiation (i.e., isolation of one of the sections of the previously established science) or integration. Sections and directions of epidemiology, which arose mainly before the 20th century and formed by the middle of it, were dictated by the practical need to fight infections.[4]

In recent years, fundamentally new phenomena in society are transforming the epidemic process not only through three classical links, but also changing the biology of infectious agents, as well as forming new types of infectious and non-infectious pathology. All this could not but be realized in fundamentally new directions of epidemiology. These directions, which are currently to a certain extent formed or are only acquiring clear outlines, must be classified. So, the first group (theoretical and applied directions) consists of such sections of epidemiology that still require the development of a theoretical basis, their emergence and evolution are dictated both by social phenomena and the progress of research methods.[5]

The second group can include directions based on a reliable theoretical basis and already having important applied significance. The new directions, due to a special type of development of the epidemic process, include the epidemiology of chronic infections, the epidemiology of slow infections, the epidemiology of sapronosis,

and the epidemiology of non-infectious diseases.[1,7] Epidemiology of chronic infections Today, there is a systematic replenishment of the number of chronic diseases of an infectious nature, previously considered non-infectious (chronic gastritis, gastric ulcer and 12 duodenal ulcer associated with Helicobacter pylori, as well as a number of malignant neoplasms). It is known that the modern period is characterized by a significant increase in the incidence of tuberculosis, chronic viral hepatitis B and C, herpes infection, mycoses, etc. The group of chronic infections is heterogeneous. It includes viral, bacterial, chlamydial, fungal, protozoal and other diseases of anthroponous and zoonotic nature. This category of infections includes typical chronic diseases (tuberculosis, Lyme disease, brucellosis), as well as infections that more often occur as acute, but under certain conditions acquire a chronic course (streptococcosis, etc.) or initiate malignant neoplasms (viral hepatitis B and C).[2] The study of the problem of slow infections is still at the stage of accumulation of empirical and fundamental knowledge and their initial theoretical generalization. Slow infections are characterized by the following characteristic features: an extremely long incubation period; slowly but continuously progressive development of pathology, the unusual nature of the damage to the body and inevitably fatal outcome. V.A. Zuev [6] identified three groups of main categories of disease: 1) caused by viruses, 2) caused by prions, and 3) infections of unknown or suspected etiology. In two of them with a known etiology, there are anthroponous diseases (subacute sclerosing panencephalitis, Kuru) and infections of a zoonotic nature (slow rabies infection, Creutzfeldt-Jakob disease). In the list of causative agents of slow infections, attention is drawn to those that usually cause acute diseases (measles, rubella, rabies), and causative agents of typical slow infections (Kuru, etc.) occupy a special place.[7,3] In this case, in one case, we are talking about the peculiarities of the reaction of the human body to an ordinary virus, and in others, about a special category of pathogens. The beginning of an intensive study of slow infections dates back to the 70s of the XX century. The social significance of these infections today is determined by the fact that to a large extent they are characteristic of young people, while motor functions and intelligence suffer, disability is formed with an inevitable fatal outcome.[8]

The etiological structure of infectious and non-infectious diseases, the nature and intensity of their manifestations can vary significantly in different territories, which has become the subject of study in geographical medicine and geographical epidemiology. Specialists have prepared atlases of nosogeography, which are necessary not only for medical workers, but also for representatives of other professions. B.V. Vershinsky in the period 1964-1985. a number of theoretical provisions of this direction were formulated, the monograph "Spatial aspects of epidemiology" was published. In environmental epidemiology, two areas can be distinguished.[9] The first is devoted to the study of the influence of environmental pollution on the development of the epidemic process. At the same time, most of the works here are devoted to viral hepatitis B. It has been proven that in areas with unfavorable environmental conditions, its incidence is significantly higher [4].

The second direction follows from the definition of ecology "as a science about the way of life of living beings, their relationship between themselves and the environment" [1,4]. In epidemiology, it is customary to consider the epidemic process in isolation, without taking into account the interactions of microorganisms that have the same primary localization and transmission mechanism. In contrast to the traditional one, we conducted an integration analysis of the incidence of viral hepatitis A and dysentery, influenza and scarlet fever, and showed their mutual influence on the epidemic process.

CONCLUSION

In the 80s of the XX century, fundamental virology and microbiology were enriched by molecular genetic methods that create the preconditions for a deeper understanding of the intimate aspects of the epidemic process and the development of proposals of an applied nature. In addition, they significantly enrich the theoretical sections of epidemiology. It is likely that in the 21st century new research methods will appear that will significantly expand our knowledge in the field of epidemiology.

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