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STUDY OF THE EFFECT OF MEASLES VACCINATION ON THE EPIDEMIC PROCESS OF THE DISEASE

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Abstract

Before measles vaccination programs were introduced, measles was almost universal among children. With the introduction of measles vaccination and the increase in vaccination coverage, the incidence of this disease has decreased in the years of the outbreak of the disease, and the period of repeated registration of the epidemic situation has been extended. Measles has been eliminated in many countries by achieving a very high level of immunity to measles in the population, but periodic measles outbreaks may re-emerge if this level of immunity is not maintained.

Key words: measles disease, immunity, periodic epidemic process

ҚИЗАМИҚҚА ҚАРШИ ЭМЛАШНИ КАСАЛЛИК ЭПИДЕМИК ЖАРАЁНИГА ТАЪСИРИНИ ЎРГАНИШ

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Аннотация

Қизамиқ касаллигига қарши эмлаш дастурлари жорий этилмасидан олдин болалар орасида қизамиқ касаллиги деярли кенг тарқалган эди. Қизамиққа қарши эмлаш ишларини жорий этиш ва эмлаш қамровининг кўпайиши билан касаллик эпидемияси авж олган йилларда ушбу касаллик билан касалланиш камайди ва эпидемия ҳолатини такрорий қайд этилиш муддатлари узайди. Аҳоли орасида қизамиқ касаллигига нисбатан иммунитетни жуда юқори даражасига эришиши орқали кўплаб мамлакатларда қизамиқ касаллигини йўқотилинишига олиб келинди, бироқ иммунитетнинг ушбу даражаси сақланиб турилмаса қизамиқ билан касалланишнинг даврий эпидемияси яна қайта пайдо бўлиши мумкин.

Калит сўзлар: қизамиқ касаллиги, иммунитет, даврий эпидемик жараён

Introduction

When studying the history of measles vaccination, despite several years of vaccination, not only in developing countries, but also in a number of developed countries, measles remains the main problem of the health care system. Measles disease occupies one of the main places in the general indicator of infectious diseases of the population. According to WHO data, 38 million people are infected with measles every year, and about 800 thousand children die from this disease.

Measles has been an integral part of human society throughout its history. It is distributed everywhere, in all regions, in all climate zones. The epidemic process of measles is characterized by a high morbidity and mortality rate. The complications of the disease and the high mortality rate cause serious economic and material losses [12].

During measles vaccination studies, there are groups that show a weak reaction to the injected vaccine, this figure is 5-10% of the total vaccinated, and it was found that there is a weak response to the injected immunobiological agent [14]. This process depends on many factors, the main of which is the genetic characteristics of the organism, along with genetics, the intensity and quality of the immune response, which later affects the duration and quality of the immunity of the population, as well as the phenotypic characteristics of the organism acquired during life [17].

The formation of collective immunity among the population against measles occurs at the expense of people who have recovered from this disease and who have been vaccinated. Vaccination among those susceptible to measles will limit the spread of the disease among the population. If all the rules in vaccination work are carried out on time and correctly, they ensure the development of long-term immunity after vaccination [13].

The quality of vaccine preparation and the proper implementation of the system of their use will make the work efficiency in measles disease control even higher [14, 17, 20, 21, 22].

When studying the theoretical aspects of measles eradication, the existence of a single antigenic variant of the measles virus worldwide, the absence of a source of the disease in nature other than the human factor, sufficient data on the clinical course of the disease, and the development of effective live vaccines play an important role in the formation of lifelong immunity from this disease [3 , 16, 18].

From the first years of mass vaccination against measles, a high epidemiological and immunological effect of this event was noted, which was manifested primarily by a decrease in morbidity and mortality rates.

Coverage of more than 90% of the population in the early stages of measles vaccination led to optimistic predictions for the complete elimination of measles, but expectations were not met, and an outbreak of measles was observed 4 years after the start of mass vaccination.

This situation is reflected in the identification of medical restrictions among children, the quality of vaccine preparation (non-standard series, amount of vaccines, lack of stabilizers, packaging of multi-dose vaccines, non-compliance with the temperature regime during transportation and storage of vaccines) found Problems with vaccination of children under one year of age and availability of live measles vaccines have led to "primary vaccination failures" [5, 26].

Despite the global availability and widespread use of highly immunogenic vaccines, measles remains one of the main causes of child mortality in developing countries, and the emergence of epidemics in developed countries and the development of strategies to combat measles disease before the WHO, whose main goal is to eliminate measles on a global scale. reduction of mortality was determined [23, 24, 25, 26].

In conclusion, it is necessary to properly organize vaccination against measles among the population and to liquidate the epidemic process of measles disease in the period before measles vaccination and at different stages of vaccination, the qualitative and quantitative state of the epidemic process, the state of immunological indicators should be correctly described.

The study of the information indicators of the disease epidemic process, which serve as elimination criteria in measles, the correct assessment of the main parameters of the epidemic process during the liquidation of measles, and the determination of the features of the formation of the measles disease focus play an important role in improving the management system of the epidemic process in measles.

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