

**CLINICAL AND EPIDEMIOLOGICAL CHARACTERISTICS OF MEASLES IN
THE SAMARKAND REGION**

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Resume: The problem of measles infection is caused by the widespread spread, high contagiousness, and the defeat of all age groups of the population. World-class experts have concluded that due to vaccination, complete elimination of the measles virus is possible. The main reasons for the increase in morbidity are the “elusive” migration of the population from the vaccine, as well as late diagnosis of the disease and therefore not timely anti-epidemic measures.

Key words: measles, epidemiology, vaccination, morbidity, prevention.

Relevance

Measles is an acute infectious viral disease characterized by respiratory tract involvement and the development of intoxication syndrome. The relevance of measles is due to its ubiquitous distribution, high contagiousness, affecting all age groups of the population. World-class experts have concluded that thanks to vaccination, the complete elimination of the measles virus is possible. As a result of the global implementation of vaccination over the past 15 years, measles mortality worldwide has decreased by almost 75%. According to WHO, "in recent years, there have been increasing reports of infection outbreaks in various parts of the world." In the USA, measles was declared eliminated in 2000, and it was also planned to eliminate measles in Russia by 2010. However, according to WHO, up to 3 million cases of measles are registered annually worldwide, and currently measles outbreaks have been recorded in 14 European countries. In 2017, 9,500 people were infected with measles in Europe. Measles is dangerous due to complications involving the bronchopulmonary system, central nervous system, and gastrointestinal tract. In some countries, measles remains an endemic disease: over 41,000 cases were registered in China in 2015, over 679,000 cases in India, and over 10,000 cases in Pakistan. The majority of the infected are young children. It should be emphasized that 87% of all those infected have never been vaccinated. In Russia, measles morbidity increased by 3.1 percent in 2017 compared to 2016. The main reasons for the increase in morbidity are population migration evading vaccination, delayed diagnosis of the disease, and consequently untimely anti-epidemic measures. WHO has named vaccine refusal one of the main threats to public health. Another reason for the increase in morbidity is the presence of under-vaccinated populations. The rise in morbidity is due to the importation of the virus from other regions.

Purpose of the study: To establish the clinical and epidemiological features of measles in the Samarkand region from November to December 2023.

Material and methods

Under our observation at the regional clinical infectious diseases hospital in Samarkand, there were 795 patients from November to December 2023. Among them, 716 were children aged 1 to 3 years. Measles diagnosis was established based on the data of epidemiological history, medical history, observation of clinical symptoms during the catarrhal period, eruption period, and pigmentation. Special attention was paid to the presence of Koplik's spots, the nature of the rash and its stage appearance, and pigmented spots. All patients underwent general blood, urine, and stool analysis. Specific IgM antibody determination confirmed the diagnosis on the days of admission. If necessary, chest X-rays were performed to detect complications. Each child was examined by a pediatrician and, if necessary, by a neurologist.

Results and discussion

Analysis of the obtained results showed that out of 795 measles patients, infants under one year old accounted for 670 (84.3%), children aged 1 to 3 years accounted for 46 (5.8%), children aged 3-7 years accounted for 54 (6.8%), and the remaining adolescents and older individuals accounted for 25 (3.1%). Analysis of vaccination history revealed that the infected individuals were not vaccinated against measles, with neurological diseases being the reason for medical exemption in 12.6% of cases; all infants under one year were unvaccinated (84.3%), while those who received one vaccine accounted for 3.1%. Among the surveyed children, 82% had contact in various medical institutions, contact was established in the family for 13%, and contact could not be determined for 5%. The determination of severity in patients showed that 85% had moderate, 10% had severe, and 10% had mild and modified forms of measles. The majority of patients (68%) were admitted during the rash period, while 32% of patients were admitted during the catarrhal period. Examination of clinical symptoms showed that the disease mainly had a cyclic course, except for patients with a modified form of the disease. Study of clinical periods showed that the incubation period in typical cases lasted on average from 4 to 5 days. The catarrhal period in infants under one year was 2-3 days, while in older children, it was 3-5 days. All children during the catarrhal period had an elevated temperature ranging from 37.5°C to 40%. Specifically, 68% had a temperature of 37.5 - 38.5°C, while 32% had a temperature above 38.5°C. All patients experienced decreased appetite, restlessness, and irritability, especially pronounced in children under 1 year (84.3%), while older children (6.8%) complained of headache, weakness, cough, and runny nose. Eyelid swelling, varying degrees of conjunctival hyperemia, and photophobia were also observed in all patients. Koplik's spots, small grayish-white spots surrounded by a ring of hyperemia located at the base of the buccal mucosa, were present in 84% of cases. The oral mucosa of patients appeared loose, juicy, and brightly hyperemic, with less pronounced catarrhal manifestations in 5% of patients.

The rash period lasted 3-4 days and was characterized by the appearance of maculopapular spots initially behind the ears and on the nose, then spreading to the trunk by the end of the day and covering the entire trunk by days 3-4. The rash appeared on unaffected skin and involved both extensor and flexor parts of the body. In 5% of patients, there were disruptions in the sequential appearance of the rash, with rash appearing within 1-2 days. Hemorrhagic solitary spots parallel to papular spots were detected in 4% of patients. The rash in the majority of patients was abundant (92%), with only 8% of patients showing isolated eruptions. The rash appeared against the background of pronounced intoxication,

especially in the first 3 days. The temperature was maintained between 38.5-39°C. Coughing became barking in character in 97% of cases. Intestinal dysfunction in the form of frequent loose stools was observed in 33% of children under one year. Complications were identified during the rash period, indicating a complicated course: obstructive bronchitis (12%), stenosing laryngotracheitis (8%), bronchopneumonia (82%). Measles in children under one year occurred against the background of hypoplastic anemia. Pigmentation appeared as early as the 2nd day on the face in 14% of patients, with pigmentation identified in 86% of patients by days 3-4. Measles, which had a smooth course during the pigmentation period, showed a gradual decrease in intoxication symptoms, and the condition became satisfactory. Maculopapular exanthema with characteristic sequential eruptions was observed in all patients with pigmentation, followed by mild desquamation. The total duration of the rash period was (7-12) days.

Conclusions

1. Out of 795 observed patients, mostly children aged 1 to 3 years were affected, with children under one year accounting for 84.3%. 2. Distribution of the disease by severity was as follows: 85% of patients had a moderate severity, while 10% had a severe form. 3. Complications were more prevalent in younger children: obstructive bronchitis (15%), stenosing laryngotracheitis (13%), bronchopneumonia (82%).

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