



CHARACTERISTICS OF VARICELLA INCIDENCE AMONG ADULTS IN THE BUKHARA REGION

Keldiyorova Zilola Doniyorovna

keldiyorova.zilola@bsmi.uz

ORCID: <https://orcid.org/0000-0002-0662-5787>

Bukhara State Medical Institute

Chickenpox is one of the most widespread highly contagious infections, with a susceptibility rate of 95-100%. Against the backdrop of decreasing incidence of "controllable" infections, the significance of chickenpox in the structure of infectious pathology increases. Infection with the Varicella Zoster virus (VZV), typically occurring in adulthood, leads to lifelong latent persistence of the pathogen in the body of the person who has recovered from chickenpox, with a high probability of endogenous reactivation years later, often resulting in the development of such severe, debilitating diseases as herpes zoster (shingles) [4,5]. The prevalence is 60 million cases annually. According to the WHO, 4.2 million severe and complicated cases of chickenpox are hospitalized annually, and 4,200 cases lead to death worldwide.

The most severe complication of chickenpox in adults is encephalitis. Although the disease is characterized in the overwhelming majority of cases by a benign course, the high intensity of the chickenpox epidemic process results in significant economic losses, primarily associated with the temporary loss of productivity of parents caring for sick children. The occurrence of chickenpox outbreaks complicates the work of children's and educational institutions. Against the backdrop of high incidence, even rare complications and fatalities cause significant social and economic damage [3].



The modern epidemic process of chickenpox is characterized by a tendency of the infection to "adult," especially among the urban population. Every year, 5-6% of cases involve adults, and 3-5% of cases involve adolescents aged 15-17. The risk of complications and fatalities from chickenpox in adults is 10-20 times higher than in children. There is an increased likelihood of infection among pregnant women, which subsequently raises the risk of intrauterine infection of newborns. The incidence of infections during pregnancy per 100,000 births is 10-20 cases. Developmental defects are found in less than 0.1% of cases among children infected in utero [1,4]. According to foreign sources, the incidence of clinically diagnosed neonatal chickenpox is 1 in 200-1500 newborns, while the congenital chickenpox syndrome occurs in 1 in 40,000-80,000 newborns. Therefore, in the context of an epidemic surge in incidence, including among adolescents, there is a high likelihood of developing congenital chickenpox, which determines the social significance of this infection [2]. Congenital chickenpox should be suspected if the Varicella Zoster virus infects the fetus in utero or intranatally. Specific manifestations of congenital chickenpox are called congenital chickenpox syndrome.

Chickenpox contracted by a woman between the 8th and 20th weeks of pregnancy results in fetal death or stillbirth in 30% of cases. In 60% of surviving children, hypoplastic skeletal defects and neurological anomalies develop, while 25% have anomalies of the eyes, genitourinary system, and gastrointestinal tract. If infection occurs during the second half of pregnancy, the infant may develop a latent infection, leading to shingles in the first few years of life [1,5]. If the mother has shingles, the congenital chickenpox syndrome occurs in the fetus relatively rarely, as the fetus is protected by antibodies received from the mother [4]. Mortality from pneumonia due to chickenpox in adults reaches 10% [5]. The highest risk of severe outcomes is found in individuals with immunodeficiency of any origin, affecting the cellular component of immunity. This is particularly



characteristic of patients with HIV infection and those with chronic diseases (diabetes, autoimmune disorders, bronchial asthma, acute leukemia, systemic connective tissue diseases).

In Bukhara, over the past 10 years, there has been a trend towards an increase in the incidence of chickenpox both among children and adults, with an incidence rate of 151.6 per 100,000 population. Between 2014 and 2024, 130 patients with chickenpox were hospitalized in the infectious diseases department of the Bukhara Oblast Infectious Diseases Hospital. It should be noted that there has been an increase in the proportion of severe cases of chickenpox, with the development of purulent-inflammatory complications in 15% of cases. Most hospitalizations occurred between October and April.

The admission of patients during the autumn-spring period is often related to immune system characteristics in the winter and spring, when the body lacks vitamins and minerals due to changes in diet, reduced physical activity, and insufficient sunlight. Our data coincides with the findings of other authors [1,2], who suggest that during the winter-spring period, under the appropriate temperature conditions, the virus can cause epidemics among susceptible individuals.

Research Objective

To analyze the features of the clinical course of chickenpox in adults undergoing inpatient treatment in Bukhara Oblast Infectious Diseases Hospital.

Materials and Methods

Under our observation, there were 76 patients with medium-severe chickenpox aged 18 to 35 years, who were hospitalized in the infectious diseases hospital. The selection of patients was conducted through continuous observation



as they were admitted to the hospital, excluding secondary infection with another virus.

Inclusion criteria for the study included: male and female patients with a temperature of $\geq 37.5^{\circ}\text{C}$ in combination with intoxication symptoms (weakness, chills, body aches, headache), catarrhal symptoms (sore throat), exanthema (polymorphic rash), and informed consent from the patient. The majority of patients were male (48 patients, 66.3%), with 28 female patients (33.7%). The age distribution of the examined group was as follows: 47 patients (61.8%) were aged 18-20 years, 23 patients (30.3%) were aged 21-30 years, and 6 patients (7.49%) were aged 31-35 years.

Results

The diagnosis of chickenpox was made based on complaints, medical history, and objective data. A high level of suspicion for chickenpox was noted among primary healthcare providers, which reflected in a large number of correct diagnoses (79.6%) upon hospital admission. However, there were some misdiagnoses, particularly when patients were seen early in the disease when the rash had not yet fully developed (20.4%). Two patients (2.6%) did not have referrals and were diagnosed directly in the emergency department. The epidemiological history revealed that 56 patients (76.8%) had contact with individuals with chickenpox. Of these, 24 (28.4%) had contact with sick children, 12 (15.8%) with infected coworkers, and 50 (65.8%) were hospitalized due to both clinical and epidemiological indications. In 9 cases (11.8%), no direct contact with patients was found.

The onset of disease in 54 (68%) patients was acute, and in 22 patients (32%), it was subacute with a prodromal period lasting 1 to 3 days. During the prodromal period, patients experienced weakness, temperature rises to $37-37.5^{\circ}\text{C}$, dizziness,



sore throat, and loss of appetite. Following this, the temperature rose to 38-39°C. The febrile period lasted from 4.9±1.8 to 6.8±2.0 days. Hospitalization occurred during the eruption period (days 2-4) in 72.4% (55 patients) of cases, although some patients were hospitalized later (on days 5-6) in 13.2% (10 patients) of cases.

The eruption period began mainly with several maculopapular elements localized on the scalp (48.5%), in the postauricular areas (22.8%), or both simultaneously (28.5%). Over the next 1-4 days, the rash spread to the face, neck, torso, and upper and lower limbs. In 53 patients (69.7%), the rash on the lower limbs was sparse. Within hours, the rash evolved into vesicles with clear contents. Fifty percent of patients (38) experienced enanthema, accompanied by throat pain, burning, and difficulty swallowing. Five patients (6.6%) developed blepharoconjunctivitis, leading to tearing, grittiness, and pain in the eyes. By days 3-4, the rash became polymorphic, including maculopapular-vesicular elements, which gradually dried out and formed crusts. The crusts typically fell off by days 9-11.

Thirty-five percent of patients (27) had an extremely abundant rash that covered almost the entire face and torso. The rash had a distinctive feature of rapid and abundant pustulation, accompanied by a significant temperature rise (39-40°C). Seven patients (9.2%) had such severe pyoderma that antibacterial therapy was required. All patients exhibited lymphadenopathy, predominantly involving submandibular and posterior cervical lymph nodes.

Severe chickenpox occurred in 8 patients (10.5%) and was associated with complications, including pneumonia in two patients. The severe form of the disease was characterized by a high fever (39-40°C) from the first days of illness, pronounced intoxication, headache, dizziness, nausea, repeated vomiting, sleep disturbances, severe weakness, and a lack of appetite. The rash was also extremely



abundant, typically with pustulation. Severe cases were seen in patients with preexisting conditions (diabetes, bronchial asthma).

Conclusions

1. Chickenpox in adults is generally more severe than in children.
2. Chickenpox in adults begins with a prolonged prodromal period and pronounced symptoms of intoxication.
3. Chickenpox in adults is characterized by abundant polymorphic rashes, with the eruption phase lasting from 5 to 8 days, and 64.5% of patients experience skin itching.
4. In 35.5% of cases, the rash was pustular in nature.
5. In 50% of cases, enanthema with sclera and conjunctivitis was observed.
6. Severe cases of chickenpox are complicated by pneumonia, encephalitis, hepatitis, and other complications.

References

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