

Some Clinical Features Of The Chickenpox In Adults And Children In Modern Conditions (Review Article)

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Abstract. *Chicken pox is one of the leading places in prevalence after acute respiratory infections. The urgency of the problem is determined by the high incidence of chickenpox, the widespread spread of the pathogen, an increase in the specific gravity in the general infectious pathology, and the ineffectiveness of preventive measures implemented in practice (isolation of patients, quarantine). Despite the low incidence of chickenpox in adults, the risk of severe complications and even death is higher than in children. The greatest risk of the dysfunctional course of chickenpox is noted in people with immunodeficiency. This is characteristic, first of all, for patients with HIV infection and patients with chronic diseases (diabetes mellitus, autoimmune diseases, bronchial asthma, chronic hepatitis, systemic diseases of the connective tissue).*

The aim of the study was to conduct a retrospective analysis of the clinical and laboratory features of the course of chickenpox in children and among the adult population of the Samarkand region, as well as to offer practical measures for the prevention of disease in practical health care.

Keywords: *chickenpox, children, clinic, rash, complications, vaccinations, immunoprophylaxis.*

1. INTRODUCTION.

Chicken pox is a highly contagious, widespread infectious disease. Chickenpox virus (CMV) causes both chickenpox due to primary infection and herpes zoster (HZ) or herpes as a result of endogenous reactivation of latent infection. According to the WHO, infection mainly occurs at a young age in temperate countries (in the absence of a vaccination program, more than 90% becomes infected during adolescence), while in tropical countries older people are infected [1, 2, 14].

The chickenpox virus is highly contagious, with secondary rates of chickenpox ranging from 61-100%. The rise in the incidence of chickenpox occurs in the winter-spring period. The incubation period of chickenpox from the moment of contact until the rash appears is usually 14-16 days. A few days before the rash, prodromal symptoms of the disease occur - fever, general malaise, and anorexia. The rash is characterized by the appearance of fresh foci of skin lesions that progress from 5 to 7 days, turning from macula to papules and then to itchy vesicles and then crusts. In unvaccinated people, the number of damage sites often reaches approximately 300, causing great suffering [5, 11, 19, 20].

2. LITERATURE REVIEW.

About 750-800 thousand people fall ill with chickenpox in the world every year, and mortality - 1 in 60,000 cases [14]. Despite the low incidence of chickenpox among adults, the risk of serious complications and even fatal outcomes is 10-20 times higher than in children. Mortality from pneumonia in chickenpox in adults reaches 10% [12]. The incidence of chickenpox in Uzbekistan also remains high and causes significant economic damage to the country [10].

It is worth noting that, as a rule, chickenpox is a self-stopping disease and rarely leads to such serious complications as pneumonia, cerebellar ataxia, encephalitis, hemorrhagic conditions and bacterial superinfection of skin lesions. Although a severe form of the disease with damage to the internal organs is more often observed in people with weakened immune systems, the largest number of deaths with chickenpox occurs in practically healthy children [16, 17, 18].

For laboratory diagnostics, the preferred diagnostic material is foci of skin damage, and sampling is carried out by excision of the arch of the vesicle with a sterile needle and taking a smear from the basal layer of damage using a sterile swab to obtain epithelial cells. If the rashes are represented only by macules or papules, then the sample is obtained by scraping from the site of damage. When using the direct fluorescence staining of antibodies (DFA) method, it is necessary to exclude blood contamination of the sample, since serum antibodies can interfere with the binding of fluorescently stained antibodies and cause a false-negative result [4]. Taken smears can be used for PCR, DFA or virus culture. Paired sera are also tested for IgG antibodies. Serological tests can be used to confirm the diagnosis of the disease, but to identify the virus, they are less reliable than PCR or DFA [4, 7, 13].

Standard treatment for chickenpox with antiviral drugs such as acyclovir is recommended only for patients with generalized chickenpox and for those at high risk of developing severe chickenpox. Persons with weakened immunity and patients with severe complications, as a rule, are prescribed antiviral agents intravenously [5, 9].

Chickenpox vaccines have existed since 1974. Vaccination forms a stable immunity for many years. Apart from vaccination, there are no effective measures to control the spread of chickenpox. The existing chickenpox vaccines in the world are live attenuated vaccines, which are administered in one or two doses. According to reports, the effectiveness of a single dose is approximately 80% against chicken pox of all degrees of severity and even higher against a serious illness [3, 6]. Two-dose vaccination is effective > 92%.

Since 1995, the United States has been providing universal vaccination against chicken pox, and since 1999 there has been a sharp decrease in the incidence. A number of studies have also shown a decrease in mortality from this disease after the introduction of vaccination, but in these studies only deaths directly from chickenpox were taken into account, while cases in which chickenpox acted as a background disease were not taken into account [7, 8, 20].

For a more complete assessment of the effect of vaccination, specialists at the Centers for Disease Control and Prevention (CDC) of the United States analyzed not only the number of deaths directly from chickenpox, but also cases when the disease was the background [7, 11]. For the period 1990-1998. the number of deaths, directly or indirectly caused by chickenpox, varied significantly. From 1990 to 1994 about 145 deaths per year were associated with chickenpox, with 105 cases of chickenpox being the main cause of death and 40 - the background disease. From 1999 to 2001 there was a sharp decrease in the number of deaths (up to 66 per year). Over an 11-year period, age-standardized mortality directly from chickenpox decreased by 66%. A decrease in mortality was observed in all age groups up to

50 years, but the greatest change (by 92%) was noted among children 1-4 years old [8, 15]. As WHO recommends, data obtained in the USA confirm the effectiveness of universal vaccination against chicken pox, which should be adopted in other countries [14].

We analyzed archived histories of patients diagnosed with chickenpox who were hospitalized in the Samarkand Regional Clinical Infectious Diseases Hospital for 2012-2015; Clinical and epidemiological analysis of hospitalized patients with chickenpox was performed using the sampling method. Over the period from 2012 to 2015, 310 cases of chickenpox were recorded in the Samarkand region, of which children under 1 year old were 30 patients, from 1 to 7 years old - 96 patients, from 8 to 14 - 63 patients, from 15 to 17 - 50 patients, over 18 years old - 70 patients. Of the total number of registered patients, 160 were organized, 150 - unorganized. Among patients, 202 had contact with a patient with chickenpox. Among the cases of chickenpox, urban residents were 165, rural residents - 145. When distributing the patients, we took into account the fact from which region the patient came from: Samarkand city 57 (18.3%), Bulungur district - 29 (9.3%) , Kattakurgan - 17 (5.4%), Urgut - 25 (8%), Tailak - 32 (10.3%), Dzhambay - 42 (13.5%), Payaryk - 26 (8.3%), Pasdargom - 27 (8.7%), Nurabad - 23 (7.4%), Samarkand district - 32 (10.3%).

When analyzing the seasonality of the incidence, we revealed the highest turnover in May and June. According to the Samarkand Regional Infectious Diseases Hospital, from 2012–2015, mild chickenpox was found in 23 (7.42%), medium-severe in 224 (72.25%), and severe in 63 (20.32%) sick. A significant proportion of patients visited in December-April: 224 patients (64.0%), in May-July the number of patients decreased to 60 people (17.1%), in August-September the smallest number was registered - 10 patients (5 , 7%), and in the autumn months (October-November) again increased to 16 patients (13.1%). The distribution of patient income depending on the time of the year is apparently associated with the peculiarities of immunity in winter and spring, when the body lacks vitamins and minerals due to changes in diet, decreased physical activity and insolation.

Our data coincide with the data of other authors [1], who believe that in the winter-spring period at an appropriate temperature, the virus can cause epidemics among susceptible individuals.

Despite the fact that chickenpox refers to childhood infectious diseases, in recent years it has often become common in adults. As our observations show among all the patients examined by us, adults comprised 70 patients diagnosed with chickenpox. Among patients, male patients predominated - 72.8% (51 people) aged 19-35 years. Observations showed that the clinical symptoms of chickenpox in adults did not differ from that in children, but the disease was much more severe. So, in 53.2 (76%) patients the course of the disease was regarded as moderate, in 12 (12.0%) patients as severe, and only in 8 (12%) patients as mild. Severe cases of chickenpox (11 cases -15%) were associated with complications, in particular, 6 patients in the acute period of chickenpox developed pneumonia. A number of authors report pneumonia, as the most common complication of chickenpox, in adults [1, 3, 12]. The main spectrum of complications was represented by conjunctivitis and streptoderma. Rare complications of chickenpox were recorded: keratitis, conjunctivitis, episcleritis, otitis media.

A comprehensive clinical and laboratory study conducted in patients with chickenpox made it possible to identify some epidemiological and clinical features of this disease at the present stage. As you know, for various infectious diseases, an epidemiological history is important for making a diagnosis, which allows you to identify the source of infection and timely start anti-epidemic measures in organized groups and in family foci.

3. DISCUSSIONS.

It is well known that in the last 10 years in the Republic of Uzbekistan significant progress has been achieved in reducing many infectious diseases. However, despite this, the problem of the control of chickenpox remains relevant for the health system. So every year in Uzbekistan, where the vaccination of chickenpox has not yet been included in the national calendar of vaccinations, sporadic cases of the disease are recorded. It should be noted that an increase in the specific gravity of the severe course of chickenpox, with the development of purulent-inflammatory complications, is noted in 15% of cases. The high-risk groups for more serious illness and complications after the initial infection of chickenpox include children under the age of 1 year, pregnant women, adults and people with weakened immune systems.

According to the order of the Ministry of Health of the Republic of Uzbekistan No. 10 dated January 10, 2010 “Immunization of people living with HIV / AIDS and people at high risk of HIV infection”, vaccination against chickenpox / shingles virus (VVZ - varicella virus zoster). The HBV vaccine is not prescribed for HIV-infected adults, regardless of the severity of immunodeficiency, and HIV-infected children with signs of moderate and severe immunosuppression [9].

Vaccination against VVZ is carried out only for HIV-infected children who do not have clinical manifestations of HIV infection or are weakly expressed (the number of lymphocytes CD4 \geq 25% of the total number of lymphocytes). Vaccination against VVZ is necessary for PLWHA family members who are not immune to chickenpox and herpes zoster in order to prevent the possible transmission of VVZ to their HIV-infected relatives.

4. CONCLUSIONS.

Thus, the problem of chickenpox is multifaceted, and its solution is possible only with systematic consideration. In this regard, it is necessary to improve the diagnostic system and introduce in the republic measures of its mass immunoprophylaxis.

Practical recommendations: 1. In our opinion, the prevention of the disease requires the introduction of universal vaccination against chickenpox in children and adults (at risk, in people with immunodeficiency), since the only method of specific prevention of chickenpox is vaccination. Children from risk groups are subject to compulsory vaccination, which will significantly reduce the incidence and likelihood of deaths.

2. Monitor the clinical and epidemiological situation of chickenpox, which is of great importance for the planning of preventive measures.

3. Conduct regular trainings and master classes among doctors on immunization, clinical laboratory diagnostics and prevention of chickenpox, with the participation of specialists, preferably from countries where chickenpox vaccination is included in the preventive calendar.

4. The development and implementation of the above scientifically based preventive measures to reduce the incidence of chickenpox in children and persons with immunodeficiency in particular, are huge prerequisites for improving public health, economic growth of the country and raising a healthy generation.

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