

FEATURES CLINICAL COURSE OF CHICKENPOX

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Abstract

The report presents clinical and epidemiological data from the analysis of case histories of 60 patients with chickenpox in adults and children. The comparative frequency of occurrence of the main symptoms of chickenpox in adult patients and children, including newborns, is given. The features of the course of the disease in adults were established: the prevalence of severe forms (up to 70%) with prodromal symptoms, febrile fever, abundant large rash with slow reverse development and itching of the skin. The clinical symptoms of chickenpox in newborns are described, depending on the timing of chickenpox disease in pregnant women before delivery. There was a severe course of chickenpox in newborns, the possibility of developing generalized forms with damage to the visceral organs and the central nervous system, with the disease of a pregnant woman 3-4 days before delivery. Data on the treatment and tactics of a doctor for the prevention of chickenpox are presented.

Keywords: Chicken pox, adults, children, epidemiology, clinic, treatment, prevention.

Introduction

The incidence of chickenpox remains high due to the lack of mass active immunization of children. The incidence of chickenpox in adults ranges from 300 to 800 or more per 100,000 population, and in children it is 7000 per 100,000 child population. Most publications on the problem of chickenpox are devoted to the clinical aspects of chickenpox in children, the features of the course of chickenpox in adults are presented in single publications without comparing the course ветряной of chickenpox y in adults and children [1-4].

The incubation period of chickenpox is from 11 to 21 days (more often 15-18 days). The clinical symptoms of the disease are polymorphic. In adults, the rash may be preceded by headache, fever, and sore throat; in children, prodromal symptoms are rare. The first elements of the rash appear more often on the body and inner thighs, with a rapid spread to the face and scalp and proximal areas of the limbs. The intensity of the rash is greater on the trunk, less on the limbs, with localization mainly on the flexor surfaces of the limbs and in the skin folds. Chickenpox rash quickly passes through the stages of spots, papules, vesicles, and crusts. Clinically, the rash is more often detected at the stage of vesicles, and the stages of spots and papules remain unmarked due to the rapid transformation of rash elements. Some elements may disappear without undergoing full development. Chickenpox rash is polymorphic, consisting of elements that are at different stages of development due to its undulating appearance with an interval of several days. In the first days of the disease, the rash can be accompanied by severe itching. Mature vesicles have an oval, rounded or irregular shape, single-chamber, surrounded by a corolla of



hyperemia. After 2-3 days, the contents of the vesicles lose their transparency, a crust forms, after which a depigmented spot remains, which can last up to 2-3 weeks or more. Occasionally, the dermis is affected and the rash in this case leads to the formation of a scar. With chickenpox (as well as with other infections), you can detect small hemorrhages on the mucous membranes of the palate. During the first two days of the disease, catarrhal phenomena and soreness in the pharynx may occur [6-9]. Later, vesicles appear on the mucous membrane of the palate and pharynx, which leads to increased pain. Vesicles on the tongue are large in size. Vesicles can also appear on the conjunctiva of the eyes, accompanied by pain and lacrimation. Vesicles on the mucous membranes are opened to form superficial ulcers that heal without scarring. It is believed that in children, chickenpox occurs more often easily, with rare complications. In adults, the course of the disease is more severe and complications are more common [10-11].

Objective

To determine the clinical and epidemiological features of chickenpox in adults and children at the present stage.

Materials and methods of research

A clinical and epidemiological analysis of the case histories of 40 adults and 60 children who were treated in the BOIB "Bukhara Regional Infectious Diseases Hospital" in Bukhara with a diagnosis of "Chickenpox" in the period from 2018 to 2023 was carried out. The examination of patients and the amount of drug therapy met the standards of medical care for this pathology. Statistical processing of clinical and laboratory data was performed using MS Excel-2003 (Microsoft, USA) and Statistica 7.0 (StatSoft, USA) computer programs.

Results and Discussion

Among adult patients with chickenpox, there were 9 (30%) males and 21 (70%) females. Among children, there are 12 boys (40%) девочек and 18 girls (60%). The age structure of adult patients was in the following order: in the age range from 18 to 24 years, children from 0 to 2 years of life - 16.7% and from 2 to 6 years - 83.3%. The course of chickenpox in adults had its own characteristics in contrast to children (Table 1).

Table 1. Clinical symptoms of chickenpox in adults and children (abs. (%))

Symptoms	Adult patients, n = 30	Newborns, n = 5	Children from 2 to 6 years, n = 25
Fever			
37.2-38.0°C	12 (40%)	2 (6,7%)	16 (53,3%)
38-39,5°With	18 (60%)	3 (10%)	9 (30%)
Duration of fever			
1-3 days	10 (33,3%)	4(13,3%)	18 (60%)
4-8 days	20 (66,7%)	1 (3,3%)	7 (23,4%)
Weakness	30 (100%)	-6	6 (20%)
Headache Headache	18 (60%)	-5	5 (16,7%)
Sleep disturbance	11 (36,7%)	-2	2 (6,7%)
Catarrhal phenomena:			
cough, runny	nose 6 (20%)	-9	9 (30%)
Exanthema:			



moderate	9 (30%)	3 (10%)	20 (66,7%)
plentiful	21 (70%)	2 (6,7%)	5 (16,6%)
Pruritus of the skin	Pruritus of the skin 22 (73,3%)	-6	6 (20%)
Rashes on the mucous membranes	10 (33,3%)	1 (3,3%)	8 (26,7%)
Duration of rashes:			
3-5 days	16 (53,3%)	5 (16,7%)	15 (50%)
6-8 or more days	14 (46,7%)	-10	10 (33,3%)
Complications:			
pneumonia	3 (10%)		-
abscess			
Encephalic reactions:			
convulsions, impaired consciousness		2 (6,7%)	
Encephalitis			
is a generalized form			
of chickenpox with defeat visceral organ damage			

The data in Table 1 show that in most children (60%), the disease occurred with a mild state of health with an increase in body temperature to subfebrile figures. In 60% of adult patients, the temperature reached high values, and the patient's well-being suffered significantly. The duration of fever was longer in adults and in 66.7% was up to 8 days or more. The body temperature reached its maximum values on day 2-4 of the rash, followed by subfebrility until the end of the rash. Significant differences were determined by the frequency and severity of toxicosis and pruritus, which occurred in 73.3% of adult patients and only in 20% of children. Catarrhal syndrome was more common in children (up to 30%). The nature of the rash elements in adults and children was the same, but in adults in 70% of cases, profuse rashes prevailed. It is possible to note a higher risk of complications in children from the central nervous system and the possibility of generalization of the process [4-6].

Our study of chickenpox in adults included 5 pregnant women who developed the disease 2-3 weeks before delivery (3 women) and 3-5 days before delivery (2 women). Of the 5 pregnant women who were infected, contact with a chickenpox patient was established in 4 (80%) cases. The incubation period of the disease was 14.0 ± 3.9 days. Acute onset of the disease was observed in 3 (60%) pregnant women. Symptoms of the prodromal period (weakness, loss of appetite, sleep, etc.) were observed only in 1 (20%) patient, briefly during the first day of the disease. All patients were hospitalized for 2-3 days of the disease. The first rashes appeared behind the ears and on the scalp, followed by rapid spread to the torso and, to a lesser extent, to the lower extremities. The duration of the rash was 5.9 ± 1.5 days. The intensity of the rash was moderate. 3 (60%) patients had rashes the oral mucosa with pain when chewing. In 1 (20%) patient, rashes were detected on the conjunctiva of the eyes and were accompanied by pain and lacrimation. Fever up to 38-39°C was observed in 3 (60%) patients. The average duration of fever was 4.9 ± 1.6 days. The course of the disease was smooth without complications. These data do not show any significant differences in the course of chickenpox in pregnant women compared to the usual course of the disease in adults. It can be assumed that when a pregnant chickenpox



disease occurs, the prognosis for a woman is quite favorable, but at the same time, it is necessary to take into account the consequences of the disease, especially in the last days of pregnancy, for the fetus (it may become infected and develop intrauterine chickenpox in newborns).

Considering the duration of the incubation period of chickenpox from 11 to 21 days, it can be assumed that chickenpox that occurs in newborns in the first 10 days of life is a consequence of intrauterine infection [12-16].

According to our observation of 5 pregnant women, intrauterine infection of the fetus occurred in 100% of cases. The severity and course of congenital chickenpox are directly related to the timing of infection of the fetus. In our observation, 3 pregnant women had chickenpox 2-3 weeks before delivery, they had developed specific antibodies that were transmitted to the child through the placenta, which suggests a mild course of the disease in the newborn. In 1 newborns of this group, rashes on the skin were already present at birth, and the body temperature did not increase. There was a rash in the form of single elements with spillage within 2-3 days, with a transition to crusts by the 6th day after birth. In 2 children, the rash appeared at 6.7 ± 1.4 days of life. The body temperature increased from 37.5 to 38°C. The duration of fever was 2.6 ± 0.6 days. The first rash on the scalp, spreading to the trunk, face, and limbs, was observed within 4.3 ± 1.3 days. The rash elements were typical, small, and not abundant. Crusts disappeared on 9.0 ± 1.2 days. The mild, smooth course of chickenpox in these cases is explained by the presence of specific maternal antibodies to the chickenpox virus in the child, which were determined in the child's blood by enzyme immunoassay (ELISA).

We present a clinical observation of the course of chickenpox in a pregnant woman who fell ill 17 days before delivery, with intrauterine infection of the fetus.

Patient A. was admitted to the BOIB "Bukhara Regional Infectious Diseases Hospital" in Bukhara on the 2nd day of illness with complaints of weakness, headache and skin rash, and low-grade fever. Pregnancy is 36 weeks. The condition of admission is satisfactory. On the skin of the face, scalp, trunk, and limbs, a moderate number of rash elements ranging in size from 0.5 to 1.0 cm in the form of spots and vesicles with transparent contents were noted. There are traces of scratching on the torso. Hemodynamics is satisfactory. The pulse rate of satisfactory qualities is up to 86 per minute, blood pressure is 120 over 80 mm Hg. Heart sounds are loud, rhythmic. The borders of the heart are not expanded. The number of breaths is 18 per minute. Auscultatory respiration is vesicular. Appetite is reduced, there is no vomiting. The liver and spleen are not palpable. The size of the uterus corresponds to the gestational age[17-20].

The rash was spiked for 3 days, followed by the formation of crusts. Treatment was carried out in accordance with the standard of medical care for this pathology, with the inclusion of VIFERON, rectal suppositories as an antiviral drug. Elements of the rash were treated with a solution of methylene blue. Discharged with recovery 9 days after the onset of the disease.

Delivery at 38 weeks of pregnancy. The child's birth weight is 2850.0. Body length 45 cm. On the skin of the trunk during the initial examination of the newborn, single vesicles with transparent contents were found. The rash was added on the 2nd and 3rd days after delivery, followed by the formation of crusts and their disappearance by the 8th day of the child's life. The disease occurred at normal body temperature. The diagnosis of chickenpox was confirmed by the results of enzyme immunoassay and PCR. This observation demonstrates the typical course of moderate chickenpox in pregnant women and intrauterine chickenpox in newborns. Taking into account the timing of the pregnant woman's illness, she developed antibodies that passed through



the placenta to the child, which led to a smooth, mild course of the disease in the child. In 4 newborns born to mothers who developed chickenpox 3-5 days before delivery, the disease was severe. Rash on the skin appeared on 11.0 ± 1.2 days after delivery. Against the background of the rash, the body temperature increased to $39-40^{\circ}\text{C}$. Rashes on the skin were observed abundant, large with a slow reverse development and transition to crusts. Rashes on the mucous membranes of the mouth, tongue with the formation of erosions. Neurological symptoms were noted in the form of encephalic reactions, convulsions of a tonic-clonic nature, and impaired consciousness. The diagnosis of chickenpox was confirmed by laboratory polymerase chain reaction. If a child is born 3-5 days after the onset of the mother's disease, the probability of a severe, unfavorable course of intrauterine chickenpox in the child is high and is explained by the fact that during these periods of the disease, the mother does not have time to develop antibodies, and, consequently, they are absent in the newborn [20-23]. This fact is not always given due importance in the diagnosis and treatment of intrauterine chickenpox.

In the treatment of severe forms of chickenpox, when prescribed from the first day of the disease, Acyclovir, Vidarabine are effective at the rate of 10-15 mg/kg of body weight per day, intravenously. The course of treatment is 5 days or more according to indications [24-27].

Insufficient attention is paid to the prevention of chickenpox in children, including newborns, pregnant women, and in contact with a chickenpox patient, which is explained by the existing opinion, including among medical professionals, about the mild course of this disease. Currently, the Varilrix vaccine (Glaxo Smith Klein, England) is administered subcutaneously or intramuscularly in the area of the deltoid muscle of the shoulder in a dose of 0.5 ml. One dose of Varilrix is given to children from 12 months of age and up to 13 years, and two doses to adolescents from 13 years of age and adults and an interval of 6-10 weeks for optimal protection (95%) against chickenpox. Chickenpox vaccines Okavax (Japan) and Varivax (Netherlands) are also registered in Russia [28-34]. For post-exposure prophylaxis, administration up to 96 hours (preferably within 72 hours) after contact provides a protective effect of up to 90%. Vaccinations are contraindicated in pregnant women [35-39].

Prevention of chickenpox in pregnant women is carried out by intramuscular or intravenous administration of a specific immunoglobulin Zostergam, and in the absence of Cytotect no earlier than 2 days and no later than 4 days after contact with a chickenpox patient. Pregnant women with chickenpox are given a specific immunoglobulin 5 days before delivery or 48 hours after delivery, acyclovir or vidarabine are prescribed at a dose of 15 mg / kg, for 5 days or more according to indications [40-45].

A healthy newborn born to a mother who had chickenpox or had chickenpox during pregnancy is indicated for intravenous administration of zostergam or cytotect, and in case of maternal illness, acyclovir should be prescribed for 5-10 days in addition to immunoglobulin 3-4 days before delivery [45-49].

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