

A Rare Severe Varicella Case that Acquired in Perinatal Period

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Abstract

Maternal chickenpox between 6 days before delivery to 2 days after delivery (perinatal varicella) can cause severe and even fatal illness in the newborn. A 12-day old boy presented on day 6 of postnatal with the complaints of widespread pleomorphic rash, fever and non-suckling. His mother had chicken pox rashes 4 days before delivery. During the physical examination the body temperature was measured as 39.1°C, there were polymorphic swollen lesions on the skin and in the mouth which were mostly papule and vesicular and some were crusted on skin. The patient was administered a dose of 30 mg/kg/day IV acyclovir. On the second day of treatment cefotaxime and vancomycin was added to the treatment due to detection of *Staphylococcus Aureus* in the blood culture and fever. The lesions recovered on day 11 of treatment and he was discharged. According to the literature, our patient worse than many other reports. This may be attributed to bacterial sepsis in perinatal varicella complicated by *Staphylococcus Aureus*. Consequently we emphasised that when the rashes are determined on the skin of newborns, medical history should be taken in detail and asked whether or not the mother has had a rash during her pregnancy.

Keywords: Perinatal period; Chicken pox; Dissemin rash

Introduction

Chicken pox is a contagious disease occurring as a result of the primary infection of the varicella-zoster virus and that is seen generally during childhood. It is characterized by widespread and itchy macule, papule, vesicle, pustule and crusted lesions and either does not have a prodromal period or this period is very short [1].

Having chicken pox during pregnancy is carries great risk in terms of the fetus due to teratogenic effects. It has been recorded that the infection occurring during the initial trimester of pregnancy causes a clinical tabled named “congenital varicella syndrome” that progresses with spontaneous miscarriages or hypoplastic extremity, zosteriform skin scars, micro-ophthalmia, cataract, chorioretinitis and anomolies in the central nervous system but that after this period the virus does not have a teratogenic effect [2-4]. If the mother develops varicella rashes between day 4 antepartum and day 2 postpartum, generalized neonatal varicella leading to death in about 20% of the cases has to be expected [5]. The chicken pox infection suffered at postnatal day 10 is named as neonatal chicken pox and it is notified that these cases pass quite subtle and that the prognosis is good [1,2].

A case that came with complaints of widespread pleomorphic rash, fever and non-suckling and was diagnosed as perinatal chicken pox has been presented in this study as it has been considered to be a rare and worse case.

Case Report

Our case is a 12-day old boy patient born at home with normal vaginal delivery from the first birth of an 18 year-old mother that had chicken pox rashes 4 days prior to birth (Figure 1). Our patient was brought in while 6 days-old with the complaint of rashes covering the entire body within 6 days after having started on the face. During the physical examination the body temperature was measured as 39.1°C, body weight as 3000 grams (25-50p), height 50 cm (50p) and head circumference 34 cm (25-50p). There were polymorphic swollen lesions on the skin and in the mouth which were mostly papule and vesicular and some were crusted on skin (Figures 2,3). The examination findings of the other systems were normal. In the laboratory examination, the urine test was normal, haemoglobin 15.7 gr/dl, leukocyte count 19100/

mm³, and the spreading of the peripheral blood was 30% fragmented and 70% lymphocyte. The serum C reactive protein was 28 mg/dl and the total serum total immunoglobulin M (IgM) level was 318 mg/dl (N: 5-30) There were no production in the urine and skin swabbing cultures. Molecular or laboratory diagnosis to confirm the VZV were not applied in our case as our technical opportunities were not sufficient. Diagnosis based on the clinical presentation. The patient was administered a dose of 30 mg/kg/day IV acyclovir due to the extreme widespread and severity of the rashes. Application of anti-varicella-zoster immunoglobulin (VZIG) was planned, but, we have no VZIG in our hospital so we didn't give zoster immunoglobulin to patient. On the second day of treatment cefotaxime and vancomycin was added to the treatment due to detection of *Staphylococcus Aureus* in the blood culture and fever. The lesions recovered on the 11th day in hospital with the current treatments and were made extern with a stable general condition to visit the hospital clinic for check ups (Figure 4).



Figure 1:

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Figure 2:

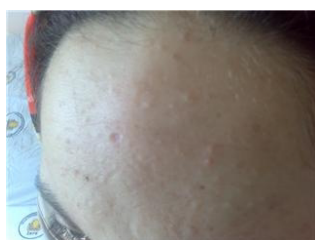


Figure 3:



Figure 4:

Discussion

Incidence of chicken pox during pregnancy is known to be 1-2000. Fetal infection is the subject when the mother suffers the disease in the period before the last seven days of pregnancy. However, when the mother is infected during the last seven days, chicken pox findings occur in the baby during the initial 10 postnatal days [1-3]. As the disease cannot create antibodies and does not have enough time to infect the baby by means of the placenta, this type of disease occurs more severely and the mortality rate increases up to 30%. It has been indicated that the rashes in this kind of perinatal infections shall be informed within the initial 10 days. This is because babies that present findings after 10 days and especially 15 days are thought to have gained the infection factor postnatally. Postnatally caught infections are both slight and the prognosis is good [1-4,6-8]. Our case, whose mother broke a rash 4 days prior to delivery (Figure 1), was evaluated as a perinatal infection because the rashes had started while he was 6 days-old (Figures 2,3).

The diagnosis of the disease is given with main clinical findings. Besides this, methods such as virus isolation, showing of virus antigens or virus DNA by means of PCR, latex agglutination, ELISA and FAMA (fluorescent antibody membrane antigen) are also used [9,10]. The above mentioned laboratory methods were not applied in our case as our technical opportunities were not sufficient and there was no doubt regarding the diagnosis.

The total IgM value was found to be very high in our case [318

mg/dl (N: 5-30)]. IgM is a very valuable diagnosis method in terms of presenting the infections caught congenitally or perinatally during the fetal period and initial postnatal 15 days. As our case's value was rather high, this shows that the infection was caught in the perinatal period.

Complications of neonatal varicella include clinical sepsis, pneumonia, pyoderma and hepatitis [11]. In our case, the urine test was normal, liver transaminase concentrations was normal, haemoglobin 15.7 gr/dl, leukocyte count 19100/mm³, and the spreading of the peripheral blood was 30% fragmented and 70% lymphocyte. The serum C reactive protein was 28 mg/dl. There were no production in the urine and skin swabbing cultures, however Staphylococcus Aureus detected in the blood culture. Due to the patient was diagnosed with bacterial sepsis caused by Staphylococcus, cefotaxime and vancomycin were added to the treatment.

Administering a dose of 10-30 mg/kg/day of acyclovir for 5-7 days in newborn babies for the treatment of the disease has been shown to reduce mortality and morbidity [1-3]. The authors suggested that VZIG should be given to infants at risk, including those whose mothers have chickenpox during the last 7 days of pregnancy [12]. Acyclovir was started for seven days in our case. Application of anti-varicella-zoster immunoglobulin (VZIG) was planned, but, we have no VZIG in our hospital so we didn't give zoster immunoglobulin to patient. It was observed that the clinic table improved after the treatment and the lesions recovered on the 11th day in hospital (Figure 4).

Conclusion

Consequently we emphasised that when the rashes are determined on the skin of newborns, medical history should be taken in detail and asked whether or not the mother has had a rash during her pregnancy. If we considering perinatal chicken pox, should be given acyclovir to decreases morbidity and mortality.

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