

Case Reports

Life Threatening Complications of Chicken Pox in a Young Adult

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Abstract:

Chicken pox is a self-limiting, infectious disease caused by Varicella-zoster virus (VZV). In adults though rare, severe form of disease may cause complications like hepatitis, pneumonia, encephalitis. We present here a case of young male with life threatening complications of chicken pox who survived due to prompt & timely management.

Key words: Chicken pox, Varicella-zoster virus, complications of chicken pox

Introduction:

Chickenpox is a highly contagious disease caused by primary infection with Varicella Zoster virus (VZV) which is a double stranded DNA virus of a herpes virus family which also include herpes simplex virus type 1 and 2.^{1,2} Reactivation of latent virus causes shingles (herpes zoster), a disease predominantly occurring in elderly or immunocompromised patients. However in adults, the disease is more severe, though the incidence is much less common. Adult infection is associated with complications like pneumonia, hepatitis and encephalitis.³ There are also some rare complications like septicemia, Disseminated Intravascular Coagulation (DIC). Here we report a case of primary varicella in an immunocompetent young male with such complications.

Case report:

An 18 year old male was admitted into Medicine unit with the complaints of sudden, severe spasmodic lower abdominal pain and high-grade intermittent fever for 7 days, generalized skin rash for 5 days, loss of consciousness for 3 days and bleeding from the nose & gums and passage of fresh blood with urine and per rectum for 2 days. The abdominal pain progressively became generalized and there was no bowel

movement for last four days. The skin rash first appeared in the chest, soon after spreading to all over the trunk and all the limbs. It was macular to start with, followed by



Fig.-1: Vesiculopapular rash with crusts involving the trunk and upper limbs

maculopapular and pustules. Later the rash appeared in crops in different parts of the body. No preceding headache or convulsion was reported.

On admission, patient was afebrile, semiconscious and restless, moderately anaemic, vitals normal. Blood stained purulent urine was seen to come out of the catheter in situ. Generalized maculopapular rash with some areas of pustules & crust, extensive oral ulceration as well as gum bleeding and crusted blood in both nares were present. Abdomen was tense and tender in the periumbilical region; no organomegaly or ascites was present.

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Investigations showed Hb – 9.2 g/dL, Platelet – 15,000/mm³, ESR – 30 mm, D-dimer – 1000 ng/ml, APTT – 58 sec, prothrombin time – 18 sec, SGPT – 507 U/L. Urine R/E – Pus cell – 16-20/HPF, epithelial cells – 3-6/HPF, RBC – plenty. CXR & ECG were normal. Anti Dengue IgM & IgG – negative but Anti varicella zoster virus (VZV) IgM & IgG – both were positive. CSF study showed protein – 85mg/dl, glucose – 3.5 mmol/L, TC – 1200/mm³ & L- 90%, N – 10%. Initial CT scan of head was normal and MRI of brain couldn't be done due to restlessness of the patient. Following investigation reports, the diagnosis was changed to chicken pox encephalitis with septicemia and disseminated intravascular coagulation (DIC).

Patient was treated with intravenous acyclovir and ceftriaxone from the day of admission. Consequently, he was transfused 4 units of whole blood, 8 units of platelets and 12 units of fresh frozen plasma. The patient's condition improved from the fifth day of admission with improvement in his level of consciousness, reduced restlessness, cessation of all bleeding manifestations, and clearing of the rash seventh day onwards. The patient was able to walk unaided from the 14th day and later he was discharged with advice for follow-up.

Discussion:

Varicella-zoster virus (VZV) causes chickenpox, a common childhood infectious disease which spreads very easily from one person to another. It is self-limiting and not usually associated with secondary complications. In the immunocompetent person, thrombocytopenia⁴, varicella pneumonia^{5,6}, and a variety of central nervous system conditions including cerebellar ataxia and encephalitis⁷ have been described.

Varicella is usually a self-limited disease that lasts 4-5 days and is characterized by fever, malaise, and generalized vesicular rash typically consisting of 250-500 lesions.⁸ The average incubation period for varicella is 14 days and almost all cases occur 10-20 days after exposure.⁹ In contrast, reactivation disease (herpes zoster) in immunocompetent individuals is usually a localized illness, affecting the skin innervated by one or two adjacent dermatomes. However, in patients with impaired cell mediated immunity disseminated disease with widespread cutaneous and visceral involvement may develop¹⁰ and may take the one of four forms: local (classic) zoster, atypical generalized zoster with or without visceral involvement, and visceral zoster without skin lesions.¹¹ Our patient did not have previous history of chicken pox and had no obvious underlying cause for cellular immuno-deficiency disorders. His history and diagnostic work-up is suggestive of primary varicella infection (chicken pox).

Chickenpox is rarely fatal, although it is generally more severe in adult males than in adult females or children.¹² Previous analyses of age specific risks have estimated that the risk of death is 25 times more and the risk of developing encephalitis is eight times higher in adults than in children.¹³

In our country, chicken pox in adults is suspected on clinical grounds and confirmed by specific serology which is costly. Specific laboratory facility for isolation of the virus is not commonly available in our country. After extensive online search a very little information could be found about case report in Bangladesh. To far best of our knowledge, this is the 1st case to be reported with life threatening complications of chicken pox in Bangladesh. Varicella (chicken pox) in adolescents and adults tends to be more severe, and should be treated promptly; preferably within 24 hours of the onset of rash.⁹ IV acyclovir is the drug of choice.

Conclusion:

Though our patient presented late with multiple complications like encephalitis, UTI, septicemia and DIC, he was lucky enough to survive due to aggressive & prompt management. This case highlights the importance of increasing public awareness, vaccination, early recognition and diagnosis by community physicians, and prompt treatment or referral to the hospital for management to prevent fatal complications. Vaccination of all children and susceptible adults should be considered which decrease the incidence of this preventable disease.

Conflict of interest: None

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