

Complicated Varicella Infection at 8-year-old Boy with Pulmonary Agenesis

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SUMMARY

Introduction: Varicella or chickenpox is highly contagious, childhood infectious disease caused by primary infection with varicella – zoster virus from the herpes family of viruses. Usually it has a mild clinical course, rarely with described complication, mostly affecting respiratory tract and rarely the central nervous system. **Case report:** The case present 8 year old boy hospitalized eighth day of disease with clinical pictures of varicella complication. Upon receipt tachydyspnea, high fever, tachycardia, hypotensive with positive findings on lung auscultation in the sense of pneumonia. Extremely high values of non-specific inflammatory parameters are implied on bacterial infection which is treated using triple antimicrobial therapy and antiviral. A detailed clinical, laboratory and radiological evaluation is determined of clinical disease complication under a picture of MODS that required prolonged multidisciplinary treatment in ICU. **Conclusion:** The disease had a favorable clinical outcome in terms of training completely without consequences but, with the detected congenital absence lower lobe of right lung and transposition of the brachiocephalic trunk. **Keywords:** chickenpox, pneumonia, MODS, pulmonary agenesis.

1. INTRODUCTION

Chickenpox is highly contagious, usually mild childhood disease caused by varicella-zoster. Rash usually begins with several red spots (macula) which are soon filled with liquid creating small vesicles. Vesicles appear in groups, first on body and afterwards are spread on extremities, face and scalp in two to four day. Varicella is contagious disease characterized by itching (pruritus) and skin rash (vesicles filled with liquid) which is later converted to crusts. In prodromal period, usually day before rash appears patient may have mild fever and exhaustion (1). More severe secondary infection can indicate hospital treatment. Chickenpox is spread by airborne infections or direct contact with liquid form vesicle. Person having this disease can infect others during period of 2 days before rash develop and up to 6 days after first vesicles appears, or even until vesicles are turned into crusts. Incubation period range from 10-21 days. Most of children are infected with virus until 10 years of age. Patients after disease usually acquire lifelong immunity. Diagnosis is confirmed based on specific clinical course and positive epidemiological data (2, 3). Therapy is supportive with antipyretics and analgesics, topical and antimicrobial in case of infection (4). Newborns are exposed to risk of serious infection if mother has not been previously infected and subsequently immune, this is a group with highest risk and should be given varicella-zoster

immunoglobulin (VZIG). If woman in early pregnancy is infected there is a risk of congenital malformations (rarely). Disease sometimes can have fatal outcome in patients with immunodeficiency diseases (5).

2. CASE REPORT

The case presents a boy, aged 8 years, hospitalized with the clinical picture of complicated chickenpox. From history of disease: Disease begun 8 days before admission, manifested with fever and characteristic varicella rash. Two days before admission to hospital he complained on pain under right rib arch and intensive cough, otogenic secretion also was noted. In previous history he has been often treated for obstructive bronchitis. After admission he became tachydispnoc, with high fever, tachycardia, hypotensive, with positive auscultatory finding on the lung indicating pneumonia. Extremely high values of nonspecific parameters of inflammation: SE 108/ I hour, CRP 301 mg/l, L 18.5 10⁹/L, fibrinogen 7.9 indicated bacterial infection. In other laboratory findings it was registered elevation of AST 196, ALT 297, with signs of hypoxemia. Patient was treated by combined antimicrobial treatment (initially vancomycin and imipenem, as well as antiviral treatment with acyclovir together with other supportive treatment. Due to extensive empyema in right hemithorax thoracocentesis was performed and about 600 ml of purulent fluid was evacuated. Etiology

of bacterial infection was not confirmed. Disease was complicated by further progression of MODS, treated by multidisciplinary approach in Intensive care unit. Disease had a favorable outcome without sequels, but congenital agenesis of right lower lobe and transposition of brachiocephalic trunk were discovered.

3. DISSCUSION

Varicella zoster primary infection is considered as «childhood disease» and requires no special treatment in immunocompetent child. Beside bacterial superinfection of the skin, pneumonia is most frequent complication of varicella but myocarditis is very rare (6). Hemorrhagic complications are more common in the immunocompromised or immunosuppressed populations, although healthy children and adults have been affected. Five major clinical syndromes have been described: febrile purpura, malignant chickenpox with purpura, post infectious purpura, purpura fulminans, and anaphylactoid purpura. The etiology of these hemorrhagic chickenpox syndromes is not known (7).

It is well known that all childhood infectious diseases at immunodeficient patients especially hematological patients can have fatal outcome. Cellular immunity plays a key role in immunopathogenesis of varicella-zoster primary infection. Children with defect of cellular immunity are likely to have severe forms of disease (8). Different congenital disorders, especially organ agenesis can complicate benign diseases (manifesting with SIRS, MODS) and have severe and prolonged course. We do not have papers that could directly link pulmonary agenesis of lung lobes with complicated form of varicella infection, and this is the first case so far decribed in literature.

4. CONCLUSION

Varicella or chickenpox by pathogenetic mechanism in most of cases have benign clinical course, especially in children population. Most common complication is pneumonia and bacterial superinfection of skin changes. Other complications are rarely described. Myocarditis and arthritis are described in literature but are uncommon in our practice. Generally, preexistent problems such as chronic pulmonary diseases, immunodeficiency and congenital anomalies, contribute that even benign children diseases can have complicated and severe clinical course.

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