

A Case of Rubella Encephalitis

Rubella Ensefaliti Olgusu

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ÖZET: Rubella virusü nadiren postinfeksiyöz ensefalite yol açar ve bu hastaların da büyük bir kısmı sekelsiz iyileşir. Bu yazıda, 14 yaşında, rubella postinfeksiyöz ensefaliti tanısı konulan bir çocuk sunulmaktadır. Hasta, akut bilinç kaybı ve konvülsiyonlarla başvurdu. Beyin MRI incelemesi normal bulundu. Beyin omurilik sıvısı ve serumda rubella spesifik IgM pozitif bulundu. Bilinç değişiklikleri ile gelen her hastada viral ensefalit göz önüne alınmalı ve muhtemel etkenler arasında rubella da düşünülmelidir.

Anahtar Kelimeler: Rubella, ensefalit

ABSTRACT: Rubella virus has rarely been associated with the post-infectious encephalitis. Most patients recover without sequel. A 14 years-old-boy with rubella post-infectious encephalitis is reported. Acute deterioration in consciousness and repetitive seizures occurred. No abnormalities were noticed by cerebral MRI. Serum and cerebrospinal fluid specific Ig M was found to be positive. Viral encephalitis should be considered inpatients presented with altered consciousness, and rubella virus has to be remembered among the causative organisms.

Key Words: Rubella, Encephalitis

INTRODUCTION

Rubella has a benign clinical course in children, but, complications may occur rarely. Among these complications post-infectious encephalitis has been reported with an incidence of 1/6000. Rubella encephalitis generally resolves completely without any sequel compared with other causes of encephalitis (1).

CASE REPORT

A 14 years old boy was referred to our emergency department from another hospital because of fever, seizure and unconsciousness. Three days before, he had cut his right hand with a rusty sickle while working on the field. Next day, his temperature rose to 39° C, and widespread macular rashes appeared on his face and on trunk. After the disappearance of the rashes on the third day, the patient experienced a generalized tonic-clonic seizure and was given phenytoin followed by phenobarbital and diazepam. Since his seizures and unconsciousness continued, the patient was referred to our hospital.

The patient had always been healthy and had been fully vaccinated except rubella. On physical

examination, he appeared very ill, and was unconscious with a Glasgow coma score of 7 (E1M5V1). His papillae were isocoric with a positive bilateral light reflex. Meningeal irritation signs were negative, and deep tendon reflexes were hyperactive with positive bilateral Babinski signs. There was no focal neurological sign, and no rashes were observed on the skin. Multiple lymphadenopathies, the maximum diameter of which was 2 cm were palpable in the sub-occipital region of the head. Other systemic examination findings were normal. Complete blood count was normal, erythrocyte sedimentation rate was 50 mm/hour. Blood chemistry testing revealed the following levels glucose 128 mg/dl, urea 24 mg/dl, sodium 144 mEq/L, potassium 4.4 mEq/L, calcium 10 mg/dL, ALT 4 IU/L, AST 15 IU/L, creatinine 0.8 mg/dl, P 5.6 mg/dl, C reactive protein 96 mg/dl. His urine analysis was unremarkable.

Taking into consideration the initial hand injury, followed by rashes and seizures, the patient was diagnosed as having tetanus or encephalitis. Intravenous penicillin 200.000 U/kg/day, human tetanus immunoglobulin 3000 U and acyclovir 30 mg/kg/day were administered. However, as his unconsciousness continued without muscle spasm, rigidity and trismus, tetanus was ruled out. Cranial magnetic resonance imaging (MRI) was normal and his cerebrospinal fluid analysis (CSF) were as follows: protein 31 mg/dl, glucose 70 mg/dl (blood glucose level was 122 mg/dl) and no increase in the number of cells.

The patient was then regarded as having viral encephalitis and his serum and CSF samples were

analyzed for specific viral markers. Rubella IgM was found positive in his serum and CSF. He became conscious on the third day of admission and his neurological examination was normal. Penicillin and acyclovir were discontinued.

DISCUSSION

The most common causes of acute altered mental status are trauma, central nervous system (CNS) infections and intoxication (2). In our pediatric emergency department, drug intoxication is the leading cause (3). In this case, there was no history of intoxication, no CNS pathology was found, and CSF findings were normal. However his electroencephalography (EEG) showed a slow wave abnormality and coupled with the initial generalized skin rashes, the patient was thought clinically to have meningoencephalitis.

Viruses are the leading causes of meningoencephalitis, the commonest being enteroviruses, herpes viruses, mumps viruses (paramyxoviruses) and rubella virus. The incidence in children is about 10/10 000 (4). Viral encephalitis occur either directly by invasion of viruses into the brain cells or indirectly by inflammatory mechanisms. The determinations of the etiologic factors, though very important for treatment and prognosis assessment, can be achieved in less than one half of the patients (5). The cases of post-infectious encephalitis were reported as 699 in the United States between 1990-1994 (6). Because herpes simplex is considered in the differential diagnosis of all encephalitis cases, early acyclovir administration is done empirically; all viral encephalitis have similar clinical manifestations making differential diagnosis very difficult.

Postinfectious rubella encephalitis is generally self-limiting with about 80 % recovery without any sequelae (7). Neurological findings are headache, vertigo, ataxia, hemiplegia, myelitis, retrobulber neuritis and polyneuritis (8-9). However, severe loss of consciousness and seizures are rarely seen. There was a 3 days period of unconsciousness, and generalized tonic-clonic seizures in our case. From our research in the medical literature, two cases rubella encephalitis with seizures and altered consciousness; one case with only seizures and one case with epilepsy as a sequel have been reported (10-12). No seizures were observed in the subsequent clinical course of our patient. Although optic neuritis and subacute-sclerosing-panencephalitis following rubella encephalitis have been reported (13-14). Ophthalmological examination of our patient was normal

Diagnosis of rubella is confirmed by either determining of the presence of rubella IgM in CSF

and serum using ELISA (or hemagglutination inhibition tests) or by showing the presence of viral DNA using polymerase chain reaction (15).

In conclusion, viral encephalitis should be considered in patients presented with altered consciousness and rubella virus has to be remembered among the causative organisms.

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