



A RARE CASE OF ACUTE POST INFECTIONOUS MEASLES ENCEPHALITIS

General Medicine

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ABSTRACT

Measles virus is a spherical, non segmented, single stranded, negative sense RNA virus of Morbillivirus genus in the family of Paramyxoviridae. Measles remains a major cause of morbidity and mortality world wide. Measles is more common in endemic temporal countries where immunization coverage is low and environmental factors favoring the viability and transmission of virus. Measles virus infection causes an acute systemic disease associated with CNS infection leading to lethal neurological disease. CNS infection is very rare and about <0.1 % of measles cases. Here we report a rare case of acute post infectious measles meningo encephalitis with a favorable outcome.

KEYWORDS

INTRODUCTION

Measles is a major cause of morbidity and mortality in commonly infected age group of children less than 5 year and young adults. World wide there is 36 cases of measles infection per 1 million persons and in India records 2692 cases of measles in 2022. Measles encephalitis is a rare complication occurs in 1 child out of every 1000 who get measles. Measles is highly contagious and spread through respiratory aerosols or droplets. The virus initially infects dendritic cells in the alveoli, these cells drain into nearby lymphnodes and infect lymphocytes leading to viral replication. Infected cells circulate in the blood and spread around the body in various organs as skin, lung, liver, spleen and brain.

During the acute phase of infection patient develops several symptoms, including fever, cough, nasal congestion followed by erythematous maculopapular rash, conjunctivitis and hallmark koplik spots on oral mucosa. Measles infection can lead to several complications such as Pneumonia, blindness, thrombocytopenia, hearing loss or CNS complications.

Three main complications are associated with measles 1. Acute post infectious measles encephalitis (APME) 2. Measles inclusion body encephalitis (MIBE) 3. Subacute sclerosing panencephalitis (SSPE). APME occurs in 1 in 1000 cases affecting mainly older children and adults. It occurs within 2 weeks of rash onset and characterized by fever, seizures and neurological abnormalities. Other CNS complications that occur months to years after acute infection are MIBE and SSPE. MIBE and SSPE are caused by persistent measles virus infection. MIBE is rare but fatal complication that affects immune compromised patients and occurs after months of infection and SSPE is a slowly progressive disease characterized by seizures and progressive deterioration of cognitive and motor functions more common in less than 2 year of age.

CASE REPORT

A 19 yr old hindu female patient came to P.D.U. Civil Hospital with chief complaint of fever with cough and cold before 12 days followed by skin rash over face and both arms and legs which resolved in 4 to 5 days then she developed generalized tonic clonic seizures and altered sensorium before 2 days. Fever was high grade with 2 to 3 peaks in a day not associated with chills and presence of typical cough and mild conjunctivitis. Skin rash was of maculopapular type starting from face and spreading to neck and arms and legs not trunk, rash resolved in 4 to 5 days. Then after 3 days she had an episode of generalized tonic clonic convulsion and irrelevant talking and behaviour. No history of previous similar episode and other chronic infections like tuberculosis, HIV, HCV, Epilepsy, DM1, etc. History of vaccination in childhood as per schedule of 2 doses, 1st dose at 12 month and 2nd dose at age of 4 to 6 years. No significant past and family history of patient.

Examination

- Temp 102 F
- Pulse 140/min
- BP 100/70 mm Hg
- RS CVS – NAD
- CNS – conscious with loss of orientation to time, place and person.
- Pupil – bilateral equal in size and reactive to light
- Plantar – bilateral extensor
- Tone – all four limbs normal tone
- Power – not possible
- Neck rigidity – Present
- Kernigs and Brudzinski sign positive
- Rest of systemic examination was unremarkable.

INVESTIGATION

On Admission
 Hemoglobin 8.2 (13 – 17 mg/dl)
 WBC count 5600 (4000 – 10000 cells/cumm)
 Platelets 1.76 (1.5 – 4.1 lacs/cumm)
 S. Creatinine 0.50 (0.6 – 1.2 mg/dl)
 S. Sodium 139 (135 – 145 mEq/l)
 S. Potassium 3.70 (3.5 – 5.1 mEq/l)
 CRP >0.6 mg/dl
 ESR 102 mm in 1 hr (>10 mm in 1 hr)
 ALT 46 U/L (>34 U/L)
 AST 33 U/L (<37 U/L)
 HIV, HBsAg, HCV – Negative
 Dengue IgM Antibody – Negative

CSF – clear, colorless, protein – 22.3 (15 – 45 mg/dl), glucose – 98.36 (40.70 mg/dl), total WBC 08 cells (0 to 5 cells/mm), lymphocytes 60% and neutrophils 40%, RBC 6 to 8 cells, ADA 1.30 (0 – 5 U/L), microbiological exam of CSF negative.

MRI Brain with contrast – ill defined leptomeningeal enhancement on bilateral cerebral hemisphere.

Measles IgM antibody – positive 5.70 high (0 to 1.1) and IgG antibody – 300 (<13.5 AU/ml)

Treatment Given

As per history, clinical examination and supported by investigation we consider it as a case of viral encephalitis most probably as post infectious measles meningo encephalitis. Injection Acyclovir was given along with antibiotics for prevention of secondary bacterial infection, antiepileptic drugs and supportive management. After 2 to 3 days patient gain consciousness and orientation gradually and recover completely no neurological illness.

CONCLUSION

A better understanding in case of measles meningo- encephalitis is needed as it is a rare and fatal disease. While the vaccine remains the

most efficient prevention against measles infection, the decreasing coverage may lead to serious infection and its complication. There is no specific antiviral for measles infection ,but can give acyclovir with supportive measures including hydration, anti pyretics , antibiotics for secondary bacterial infection.

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