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## RESEARCH ARTICLE

### AN ADULT CASE OF MUMPS INDUCED ACUTE DISSEMINATED ENCEPHALOMYELITIS-A RARE PRESENTATION

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#### ABSTRACT

ADEM is theorized to be an immunologically mediated demyelinating disease triggered by a febrile illness or recent vaccination, eliciting an inflammatory response affecting the central nervous system (CNS). Here is a case of a young female presented as mumps which triggered ADEM diagnosed by T2/FLAIR MRI scanning and was treated accordingly.

## INTRODUCTION

Acute Disseminated encephalomyelitis (ADEM) is a monophasic inflammatory demyelinating disorder of the white matter that is often preceded by viral infection or recent vaccination. Encephalopathy and focal neurological deficits are usually manifest one to three weeks after a prodromal illness with neurologic decline progressing rapidly over days to weeks. Mumps virus infection is one of the most common communicable viral infections, A viremia disseminates the virus to parotid glands and occasionally to submaxillary glands, testes, ovaries, mammary glands and leptomeninges. Nervous system involvement is uncommon and usually presents as meningitis, encephalitis, encephalomyelitis. Here, we describe an adult case of acute mumps encephalomyelitis. Approximately 25% of patients will develop multiple sclerosis (MS) within five years of initial presentation of ADEM but the majority of individuals do not progress beyond three months (Rahmlow, 2013). ADEM is most commonly seen in children and young adults

#### Case Report

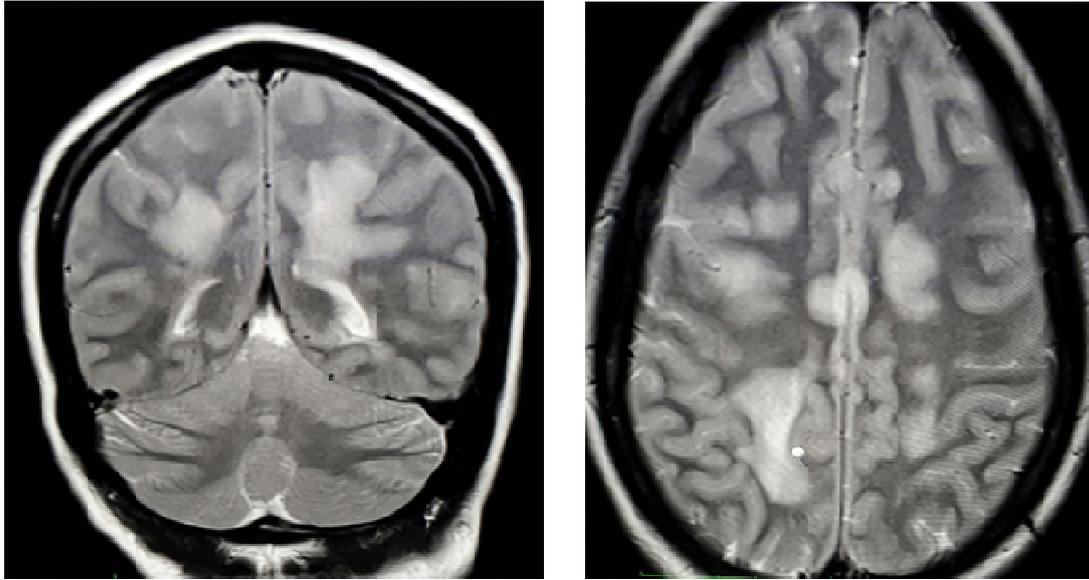
A 26 year old female presented with complain of bilateral parotid swelling with pain and fever since 3-4 days.

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Considering as a case of mumps viral infection, treatment was given. After 7 days patient developed headache, neck pain, vomiting, blurred vision, slurring of speech and difficulty in walking, then patient became semiconscious. Routine blood investigation and CSF examination was normal. MRI Brain s/o Acute Disseminated encephalomyelitis, so the diagnosis of mumps induced viral encephalomyelitis was done. Patient was treated with steroids, antiviral, antianxiotic and supportive IV fluids. Patient improved within 5 days.

## DISCUSSION

ADEM is theorized to be an immunologically mediated demyelinating disease triggered by a febrile illness or recent vaccination, eliciting an inflammatory response affecting the central nervous system (CNS). Possible mechanisms may include either molecular mimicry or direct inflammatory damage to myelinated neurons (Marinand, 2007). The prevalence of ADEM is higher in children and young adults and is thought to be related to the increased frequency of viral infections and vaccination in this patient population (Alexander, 2011). Radiologically, the T2/FLAIR (MRI) lesions of ADEM are diffuse, ill-defined, symmetric, often irregular, and occasionally patchy areas of homogeneous signal hyperintensities often involving both the gray and white matter of the brain with over half of cases involving infratentorial structures and greater than a third involving the spinal cord



**Fig. 1 &2. Images showing multiple near symmetrical T2 FLAIR hyperintensities involving bilateral periventricular and subcortical white matter**

(Rahmlow, 2013; Marinand, 2007; Riordan, 1999; Singh, 1999). Even though there are no randomized control trials dictating the most effective treatment regimens for ADEM, it is frequently suggested that high dose methylprednisolone administered early in the disease course should be used as the first line therapy, since up to 80% of patients can experience full recovery (Alexander, 2011). More advanced therapies such as IVIG and PLEX are usually reserved for refractory or more fulminant cases.

**Treatment:** Patient treated with methyl prednisolone (1gm) IV OD for 7 days and continued on a taper of oral prednisone. She was empirically treated with acyclovir and ceftriaxone for a total of 5 days. Supportive IV fluids and antianxiety drugs also given.

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