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CASE SERIES

Mumps induced atypical presentation – A case series

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INTRODUCTION

Mumps is an acute viral illness caused by the mumps virus, member of the Paramyxoviridae family. While it is mostly known for causing parotitis, the virus can affect multiple organ systems. Mumps-associated CNS symptoms are rare but serious & manifest as aseptic meningitis, encephalitis, or meningoencephalitis. Aseptic meningitis is the most common CNS complication, characterized by fever, headache, neck stiffness, and photophobia. These complications can occur in both vaccinated & unvaccinated individuals. The pathogenesis of mumps-related CNS involvement is not fully understood, but it is believed that the virus can directly invade the CNS or cause an immune-mediated response leading to inflammation. Diagnosis typically involves clinical evaluation, cerebrospinal fluid (CSF) analysis, and serological or molecular testing. Management is primarily supportive and monitoring for complications. The prognosis is generally favourable with timely and appropriate care, but long-term neurological sequelae can occur. Understanding the clinical spectrum and management of mumps with CNS involvement is important especially in light of periodic outbreaks and the variability in vaccination coverage.

CASE 1

7 years old female child named Lakshmi presented with chief complaints of fever, headache and swelling of left parotid gland from last 4 days. The child was partially immunized. Examination revealed left sided facial drooping, inability to close left eye and drooling of saliva from left side of mouth was present.

Neck stiffness was present but no signs of confusion and neurological deficits was seen. Complete blood count (CBC) revealed mild leucocytosis. Elevated serum amylase (250U/L). CSF Analysis revealed elevated WBC predominantly lymphocytic, normal glucose and slightly elevated protein levels. MRI of the brain was unremarkable.

Management: Patient received supportive care in the form of intravenous fluids and analgesics. Eye care was initiated, including artificial tears and an eye patch to prevent corneal damage due to incomplete eye closure. Oral corticosteroid, was administered to reduce inflammation and facilitate recovery of facial nerve function.

The patient symptoms improved significantly over 10 days and she showed near complete recovery of facial palsy over 4 weeks with no long-term deficits.

Discussion: Facial palsy as a complication of mumps is rare,likely due to direct viral invasion or immune-mediated mechanisms. Early recognition and supportive care, including eye protection, typically result in full recovery.

CASE 2

4.5 Years old male, Amit presented with complaints of fever, vomiting and bilateral parotid swelling from last 10 days and pain and weakness of lower limbs from last 2 days, which progressed to involve bilateral upper limbs. On examination child was alert with heart rate of 121/min, respiratory rate of 26/min and blood pressure between 50th to 90th percentile

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according to age. Bilateral swelling was present in parotid region. Neurological examination revealed hypertonia of both upper and lower limb with power of 3/5 in bilateral upper limb and 2/5 in bilateral lower limb. Deep tendon reflexes were absent and plantar were mute. There were no signs of sensory involvement and meningeal irritation. CSF analysis revealed elevated protein level with normal WBCs count. Nerve conduction study slowed conduction velocity confirming demyelination. The patient was diagnosed with Guillain Barre Syndrome likely triggered by recent mumps infection. The patient was admitted to the intensive care unit for close monitoring. Intravenous immunoglobulin (IVIG) therapy was given (2g/kg over 48 hours). Supportive care, including physiotherapy was provided to address muscle weakness and prevent complications. Over the course of 6 weeks, the patient showed gradual improvement in muscle strength and sensation.

Discussion: The co-occurrence of mumps and GBS, although rare, potentially due to an immune-mediated mechanisms where the viral infection triggers an autoimmune response. Early recognition and prompt treatment with IVIG or plasmapheresis are crucial for improving patient outcomes.

CASE 3

A 15-year-old female, Alia Bano presented with fever, altered sensorium, headache and generalized tonic clonic seizures from last 2 days. There was no history of rash, animal bite, recent travel. Her past medical and family history was unremarkable and her immunization status was not known. On examination patient was drowsy, with reduced spontaneous activity and interaction. Bilateral submandibular lymphadenopathy was seen and diffuse swelling in bilateral parotids was present. Neck stiffness was present with positive brudzinski's and kernig's signs. Deep tendon reflexes were brisk with positive Babinski sign. Diagnosis of mumps with meningoencephalitis was considered. Laboratory investigation revealed TLC-8600/cubic mm with lymphocytic predominance, serum amylase was 350U/l, CSF analysis showed clear fluid with normal glucose, mild elevated protein and lymphocytic pleocytosis. MRI Brain was unremarkable.

Patient was started empirically on injectables ceftriaxone and acyclovir and other supportive measures were initiated.

Parotid swelling subsided within a period of 5-6 days and neurological symptoms subsided after about a week.

Discussion: Mumps-associated meningitis and meningoencephalitis are significant complications that can occur even in partially vaccinated individuals. Early diagnosis through clinical suspicion, CSF analysis and serological testing, coupled with supportive treatment, usually leads to favorable outcomes.

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