Severe Complications of Mumps

Mumps is a common childhood infection caused by the mumps virus. We present a case series of three school-going children who had mumps parotitis following which they developed severe CNS and renal complications necessitating intensive care management.

An 11-year-old boy, first born of non consanguinous marriage and immunized according to national schedule along with one dose of MMR at 15 months of age, was admitted with complains of bilateral parotid swelling 2 weeks ago, associated with low grade fever that settled over next 5 days. Two days later, child developed headache with projectile vomiting and poor oral intake followed by one episode of generalized tonic clonic seizure and postictal vision loss. On examination, child had altered sensorium, bradycardia, hypertension, neck rigidity and papilledema. We suspected mumps meningo-encephalitis with raised intracranial pressure; magnetic resonance imaging (MRI) of brain was suggestive of diffuse leptomeningeal enhancement with gyral swelling and subcortical white matter edema. Child was managed in intensive care unit with ventilation and medication to reduce intracranial pressure. Three days later, he developed gross hematuria. Urine examination was suggestive of proteinuria. C3 was low, ASO and ANA were negative, and IgM mumps was strongly positive.

One month later, we saw a similar presentation in an 11-year-old girl, who had not received any prior MMR vaccine. She presented to us with secondary generalized left focal seizures following an episode of mumps like illness. CSF study showed 400 cells (mostly lymphocytes) with normal protein and sugar. Neuroimaging was suggestive of encephalitis with hyperintensities in temporoparietal cortical regions. She was treated in intensive care for two days with supportive care, including antiepileptics and measures to reduce raised intracranial pressure. From Day 9 of illness, child developed gross hematuria associated with persistent hypertension. Urinanalysis showed plenty of red blood cells with 1+ proteinuria and normal renal functions. IgM mumps serology was positive. Child was managed as glomerulonephritis with diuretics and anti-hypertensives.

An 8-year-old girl, developmentally normal and vaccinated for age, presented to us with seizures, hemiparesis and aphasia 5 days after onset of parotid swelling. On examination at the time of admission, child was conscious, and had motor aphasia, facial palsy and left sided hemiparesis. Bladder and bowel incontinence was present. Meningeal signs were absent. She was diagnosed as vasculitic stroke with acute infarct in right middle carotid artery territory. Workup for tuberculosis was negative. IgM mumps serology was strongly positive. Procoagulant workup revealed protein S deficiency, which was considered secondary to infection.

CDC recommends children to be given two doses of MMR vaccine, starting with the first dose at 12 through 15 months of age, and the second dose at 4 through 6 years of age. But it is still an optional vaccine in India, not yet included in the national immunization schedule. Recent outbreaks of mumps have been described in developed countries since 2005, and are caused by incomplete protection following vaccination, waning of immunity, and intensive crowding. Mumps currently affects mainly people who were vaccinated more than 10 years ago [1,2].

In India, MMR vaccine is an important component of the IAP-ACVIP schedule and being given at 9 month and 15-18 months [3]. Inclusion of MMR vaccine in our national immunization schedule is the need of the hour. MMR vaccine is a very effective way to prevent measles, mumps and rubella, among which both mumps and measles have serious CNS complications. Hence it is essential to give a complete coverage for these infections through immunization, both in toddlers and school-going children.

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