Mumps Hemiplegia

Rajiv Anand, R. Anand, M. Gupta, T. Mondal and J. Chandra

Department of Neurology G.B. Pant Hospital and Department of Radiology and Pediatrics, Kalawati Saran Children's Hospital, New Delhi

Abstract: Neurological involvement of mumps is commonly restricted to aseptic meningitis^{1,2}. However, rarely mumps is associated with more severe encephalitic illness^{1,3}; other known associations described with mumps are cases of transverse myelitis and Gullain Barre like illness³. We report a case of hemiplegia due to mumps parotitis probably caused by involvement of carotid artery. (Indian J Pediatr 1997; 64 : 119-120)

Key words : Aseptic meningitis; Encephalitis; Myelitis; Hemiplegia; Carotid artery

CASE REPORT

An 11-year-old male child presented with a febrile illness associated with bilateral parotitis, not associated with headache, vomiting, confusion, disorientation and hallucinations. There was diffuse painful swelling over both angles of jaw, more marked on right side. The swelling on the right side was immobile, soft to firm in consistency, tender to touch occupying the region over the parotid and conforming to its shape and displacing the ear lobule upwards. There was no history of urinary or bowel complaints. The child was febrile (temp - 101°F). Neurologicaal examination was normal. Chest, C.V.S, per abdominal examinations were normal. Patient was not treated with antibiotics and made an uneventful recovery from his primary illness. Seven days after this illness the child developed sudden weakness of left half of the body. There was no history of convul-

Reprint requests : Dr. Rajiv Anand, A-203, Meera Bagh, Outer Ring Road, Delhi-110041.

sion or loss of consciousness or behavioural changes. On examination the child was conscious, cooperative. Bilateral carotids were palpable. There was no evidence of cranial nerve palsy. Upper motor neurone type of weakness was found in left upper limb and lower limb. No meningeal signs were present, C.T. scan head revealed both the cerebellar hemispheres and brainstem were normal. Fourth ventricle was in midline. Supra tentorial region showed a well defined low attenuating lesion in periventricular region on right side. Both the lateral ventricles were normal in size, shape and position and interventricular septum was in midline. Third ventricle and basal cisterns were normal. Elsewhere cerebral parenchyma was normal (Fig. 1). A diagnosis of right periventricular parietal infarct was given. Child showed gradual recovery. After 6 days the power in limbs returned to near normal.

In view of rapid recovery from hemiplegia and for an association with mumps carotid angiography was not performed.

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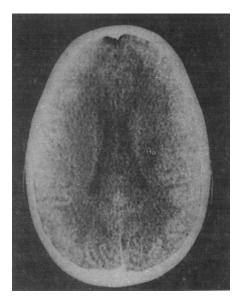


Fig. 1. CT-scan head showing low attenuating lesion in right periventricular region suggestive of infarct.

DISCUSSION

Acute hemiplegia in childhood is a nonspecific response of nervous system to various causative factors. Hemiplegia may follow an attack of childhood infective illness such as pertussis, mumps, measles, chicken pox^{3,4,5}. However, hemiplegia following mumps is quite rare though different forms of paresis as a sequelae of CNS mumps have been reported by different authors¹. The underlying mechanism for producing hemiplegia may be encephalitis, convulsion associated with the illness or a vascular lesion described by various authors^{3,5}. However, encephalitis of viral origin is only occasionally complicated by hemiplegia as it rarely involves only one hemisphere^{4.5}.

In the present case, the patient was presented with right parotid swelling and fever — the classical features of mumps parotitis². Seven days after mumps,

parotitis child was presented with left sided hemiplegia. The child after the development of hemiplegia was fully conscious. There were no behavioural disturbances or cranial nerve palsies eliminating the possibility of encephalitis as the cause of hemiplegia. Also CT scan revelaed left periventricular parietal infarct with normal right cerebral hemisphere, whereas encephalitis as already stated rarely involves only one hemisphere^{4.5}. It is said that the inflammation of ear, nose, throat or paranasal sinuses in children are associated with cervical lymphadenopathy. These enlarged lymphnodes by their proximity involve the adventitia of the internal carotid artery with subsequent development of intra vascular thrombosis and resultant hemiplegia^{4,7}. In the present case as the possibility of encephalitis was ruled out, therefore, the probable aetiological factor for hemiplegia might be carotid artheritis with resultant thrombosis of internal carotid artery.

References

- Levitt LP, Rich TA, Kinde SW et al. Central nervous system mumps. A review of 64 cases. Neurology 1970; 20 : 829-834.
- Ratzan KR. Viral meningitis. Pediat Clin North Am1985; 402-413.
- 3. Thomas FB, Perkins KL, Saslaw S. Paralytic mumps infection in two sisters. *Arch Intern Med* 1968; 121 : 45-49.
- Carter S, Gold AP. Acute infantile hemiplegia. Pediat Clin North Am 1967; 14:851-861.
- Gold AP, Carter S. Acute infantile hemiplegia of infancy and childhood. Pediat Clin North Am 1976; 23 : 413-433.
- Bicker Staff ER. Actiology of acute hemiplegia in childhood. Brit Med J 1964; 2:82-87.
- Hilala SK, Soloman GE, Gold AP and Carter S. Primary cerebral occlusive disease in children – Part I : Acute acquired hemiplegia. *Radiology* 1971; 99 : 71.