Isolated Bilateral Abducent Nerve Palsy in Infectious Mononucleosis

A 7-year-old boy presented with fever for 10 days, along with sore throat, cough, headache and occasional vomiting. A maculopapular rash developed all over the body on day-4 of illness, and on on day-8 of illness, child developed diplopia. There was no history of convulsions, altered sensorium, head trauma, or any joint pain or swelling. Examination revealed, generalized tender lymphadenopathy, hepatosplenomegaly and swelling of both upper eyelids. Neurological examination revealed bilateral lateral rectus palsy without any other cranial nerve involvement, no meningial sign, and normal size and reaction of both pupils. Investigations were: hemoglobin 9.9 g/dL, total leucocyte count 13200/mm^3 (N37, L59, few atypical lymphocytes), and platelet count 152000/mm^3. Liver function tests were normal. Dengue serology, malarial antigen, malaria parasite and Widal test were negative. Fundoscopy was normal. Examination of CSF showed 6 cells/ mm^3 (all lymphocytes), protein 52 mg/dL and glucose 82 mg/dL. Anti-Viral Capsid antigen (VCA) IgM antibody in serum for Epstein Barr virus (EBV) was 84 mIU/mL (Normal <8 mIU/mL). Magnetic resonance imaging of brain, including angiography was normal. Child was prescribed oral Co-amoxyclav and antipyretics for 5 days. Child became afebrile by 15th day, and diplopia began to improve on seventeenth day. After 4 weeks, marked improvement of opthalmoplegia was noted.

Single or multiple cranial nerve palsy may occur in infectious mononucleosis infectious mononucleosis but isolated bilateral 6th cranial nerve involvement is very rare. Other causes of cranial nerve palsy, including head trauma, vasculitis and multiple sclerosis were considered but no clue was found regarding any of these etiologies. Bilateral 6th cranial nerve palsy in infectious mononucleosis can be due to immunological mechanism; rapid reversal of neurodeficit can occur [3]. Short course of prednisolone may be helpful for such complications in infectious mononucleosis but no definite evidence regarding efficacy of corticosteroid therapy is available till date [4].

To conclude, bilateral 6th cranial nerve palsy may be the isolated neurological finding in children with IM, without any other features of brainstem involvement or encephalitis. It seems to have a good prognosis with only supportive measures.

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Efficacy of Scorpion Antivenom in Children

We read the recently published article [1] on the effectiveness of scorpion antivenom in children with interest. The authors of the article state that "there are no exclusive studies on scorpion antivenom in pediatric patients". In this context, we would like to share our experience with the usage of scorpion antivenom and update the readers of *Indian Pediatrics*. In a recently published randomized controlled trial conducted by us [2], we assessed the efficacy of scorpion antivenom plus prazosin (n=25) versus prazosin alone (n=25) for clinical grade 2 *Mesobuthus tamulus* scorpion sting envenomation [3] in children. The trial demonstrated beneficial effects of scorpion antivenom in the form of significant reduction in the mean time required for complete resolution of autonomic symptoms (sweating, salivation, priapism and cold peripheries), reduction in the

proportion of children deteriorating to more severe clinical grades of envenomation [3], lesser doses of prazosin requirement and fewer days of hospital stay. Scorpion antivenom was beneficial even when given upto 8 hours after the sting possibly due to redistribution of venom from the tissues to the plasma. Scorpion antivenom usage also led to decreased incidence of myocardial dysfunction. No serious adverse effects of scorpion antivenom were encountered.

While the case control study by Pandurang, *et al.* [1] too demonstrated beneficial effects as well as safety of scorpion antivenom, we have some concerns regarding the study. The incidence of various autonomic symptoms and their resolution time is not stated. We also do not find mention of other clinical parameters such as the proportion of children deteriorating to more severe clinical symptoms such as myocarditis or pulmonary edema, and mean doses of prazosin requirement in both the groups. These parameters are important in order to assess the efficacy of scorpion antivenom. Data regarding electrocardiogram and echocardiography, which are essential tools for the optimum management of children with scorpion sting envenomation developing myocardial dysfunction, have not been presented.

A high mortality (11.2%) in the subjects enrolled by Pandurang, *et al.* [1] is also a concern. Prazosin alone has been known to reduce the mortality to less than 1 % [4]. A lesser dose (only one vial injected over 5-7 minutes) of anti-scorpion venom and high incidence of pulmonary edema could have contributed to the high mortality. We also wish to point out that test doses of scorpion antivenom may not be essential for this condition as anaphylaxis is rare due to the high levels of adrenaline associated with scorpion sting envenomation [2-5].

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AUTHOR'S REPLY

Instead of individual autonomic symptoms, we monitored all patients using clinical composite score which includes autonomic symptoms [1]. We have reported mean duration of vasopressor requirement instead of mean dose of prazocin. We used antivenom in a dose in accordance with study by Natu, *et al*. [1]. Clinical recovery was assessed in our study, based on a set of uniform parameters like heart rate, respiratory rate and blood pressure for age and sex of the patients, and presence of normal neurological status. ECG was used for management but data regarding its use were not reported in our study. Echocardiography was not used due to lack of resources.

The high incidence of pulmonary edema in our series was due to late reporting of patients, and this might be the reason for high mortality rate in our study [2]. Previous studies also reported that in cases with late hospital admission, the beneficial effect of antivenom and/or prazosin is limited [2]. Non-availability of ventilators in our institute during study period may be another contributory factor in this regard.

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