Case Reports

Chinese Paralytic Syndrome

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Chinese paralytic syndrome (CPS) or acute motor axonal neuropathy is a rapidly ascending are flexic motor paralysis seen in children and young adults which mimicks Guillain-Barre syndrome(l,2). We are reporting a 5 yr old boy with CPS.

Case Report

A 5-yr-old boy was admitted with complaints of sudden onset of weakness in both lower limbs since 4 days. There was no history of any trauma, fever, diarrhea, respiratory tract infection, exanthematous illness, unconsciousness, convulsions or tuberculosis. There was no history of similar illness in the neighborhood. The child was fully immunized. On examination, the child was afebrile, conscious and vital parameters were normal. On neurological examination, motor system revealed reduced tone in both lower limbs with power of 1/5 at hip joint, 2/5 at knee and ankle joints. Deep tendon reflexes were absent in both lower limbs; plantar reflexes were flexors. Tone, power and deep tendon reflexes were normal in both upper limbs. Neck stiffness was present. Cranial nerves, superficial reflexes and sensory system examination were normal. Fundii were normal. The diagnosis on admission was flexic flaccid paraparesis.

Laboratory investigations revealed normal hemogram and serum electrolytes. Mantoux test was negative and the chest X-ray normal. CSF examination revealed protein level of 117 mg/dl, sugar 103 mg/dl, with corresponding random blood sugar of 113 mg/dl, and no cells on microscopy. Urine for porphyria was negative. Peripheral blood smear examination for basophilic stippling was negative. Electromyography and nerve conduction (EMG-NC) study showed severe reduction in compound motor action potential in motor nerves. Sensory nerves and nerve conduction velocities were normal. This EMG-NC study confirmed a motor axonal neuropathy which was suggestive of either poliomyelitis or CPS. However, poliomyelitis was ruled out as CSF showed increased proteins with no pleocytosis. Also, serial anti-polio viral titer estimation in blood, 6 weeks apart, ruled out poliomyelitis. A diagnosis of CPS was therefore made.

During the hospital stay, the child showed no further progression of lower limb paresis or any respiratory muscle involvement. He was given physiotherapy and discharged after 3 weeks. Neurological examination after 5 months showed an

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improvement of power in both lower limbs: 3/5 each at hip, knee and ankle joints. Repeat EMG-NC study after 5 months showed considerable improvement in amplitudes of compound motor action potential of motor nerves. The patient can now walk with knee braces.

Discussion

CPS is clinically differentiated from Guillain-Barre syndrome by presence of meningismus and its diagnosis is confirmed by EMG-NC study(l,2). It is commonly seen in northern China where it occurs in epidemic proportions between June and October affecting mainly children and young adults in rural areas(l). In a recent report from Pune, 14 cases of CPS were diagnosed retrospectively in a series of 124 consecutive cases of apparent Guillain-Barre syndrome after EMG-NC study(3). There have also been case reports from Bangladesh(4) and Japan(5).

CPS occurs between 15 months to 37 yr of age (mean 7 yr)(l). There is a history of preceding illness in about 47% cases, with fever in 31%, upper respiratory tract infection in 10% and diarrhea in 6%(1). *Campylobader jejuni* may be the cause in diarrheal cases but more studies are required to document its etiological role(6). There is no definite evidence of viral infection and poliovirus has not been isolated in any of these cases (4).

At the onset of illness patient is afebrile and nontoxic, presenting with leg weakness and stiffness of neck and back(l). The paralysis can rapidly ascend symmetrically to involve upper limbs, muscles of respiration and deglutition. This progression is usually seen till 6 days from onset of ill-ness(l). Cranial nerves are involved in 61% cases. Difficulty in swallowing is present in 58% cases and ventilatory support is required in 30% cases(l). Recovery usually starts by 16 days (range 6-104 days) of onset of illness. Neck stiffness is the first sign to disappear(l). Laboratory investigations reveal normal blood parameters and CSF study done 2-17 days from the onset of illness shows proteins of >60 mg/dl and no pleocytosis. EMG-NC study confirms the diagnosis(l,2).

It is possible that cases of CPS are being under-diagnosed in India. The cause of the disease remains unknown. Long-term prognosis of CPS is still unknown, and some reports state a good recovery, though others doubt whether complete recovery is possible(l,2). The overall mortality is 3-5%, and recurrence though rare, can occur in < 5% cases(l).

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