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ACUTE CEREBELLITIS PRESENTING AS GBS/TUMOR

Paediatrics

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ABSTRACT

A Pseudotumoral presentation of acute cerebellitis in Paediatrics is rare. We report a 6 year old male child with hemi cerebellar involvement, near complete resolution. The literature is reviewed and therapy considerations are emphasized.

KEYWORDS

Hemicerebellites, Ataxia, headache, fever, vomiting

BACKGROUND:

Case Report:

This 6 year old boy had fever 10 days prior to presentation. He had vomiting, dehydration, inability to sit, walk and dysarthria. The child was treated in the nearby hospital with IV Fluids and oral medications. The child was not improving with the treatment and was referred to higher institution. The child was admitted in Sri Venkateshwara medical College and Research Center, Ariyur, Puducherry. The child was examined, on Neurological examination and this child was found to be irritable, drowsy, speech was not clear, upper and lower extremity weakness was noted and extra ocular movements were intact. Mild ataxia and incoordination was noted. His reflexes were diminished. Babinski signs were absent. Fundus examination - No papilledema.

Laboratory testing including CBC and electrolytes was done. The child was initially diagnosed as GBS and admitted in emergency ward. He was treated with IV fluids to correct his dehydration. The child was reviewed on the next day and was found to have signs of cerebellar dysfunction. CT showed hypo dense lesion in cerebellum. Initially radiologist suspected cerebellar abscess. Next day, CT contrast was taken to confirm the diagnosis. And the final diagnosis was made as Acute Cerebellitis.

Summary Of Existing Literature:

Acute cerebellitis is a very rare disease condition. Very few cases have been reported so far in India. Our case is hemicerebellites without brainstem involvement. Only 4 cases of hemi cerebellitis mimicking tumor have been reported.

Diagnosis of acute cerebellitis is very difficult often because of clinical presentations. We report the clinical presentation and neuro imaging features in one patient presenting with acute cerebellitis that closely resembled a tumor on imaging studies. Although cases of diffuse cerebellitis have been documented in the past. Few cases of hemi cerebellitis have been reported. Acute cerebellar ataxia may occur in the infections, post infections or post vaccination period. Varicella – zoster virus, epstein – barr virus, rubeola, pertusis, diphtheria and the cox sackie virus are the most commonly involved agents.

Case Presentation:

Brief description:

The onset of the disease is explosive. A previously healthy child cannot stand. Ataxia is maximal at the time of onset. Some worsening may occur during the first few hours.

Ataxia varies from mild unsteadiness to complete inability to stand or walk. Tendon reflex may be present or absent. Nystagmus when present is usually mild. Nystagmus and cranial nerve palsies have also been reported to occur. There are also reports o cerebellitis caused by organisms like Coxiella Burnetti, Mycoplasma Pneumoniae, Borrelia Burgdorferi and human Herpes Viruses. Manifestations may occur after days to weeks after a mild virus illness. In most of the case, no specific agent is found. Each case has variable clinical course and must be treated and considered individually.

Mild cases needs only close monitoring. Marked cerebellar swelling may result in obstructive Hydrocephalus requiring placements of an external ventricular drain with or without corticosteroid therapy.

In cerebellitis, results of CT scanning may be normal or may demonstrate symmetrical low densities in the cerebellar hemisphere. CT scan may be helpful in determining whether the patient has developed acute hydrocephalus or severe brain stem compression. If cerebellitis is highly suspected MRI brain is the study of choice. MRI shows hypo intense signal on T1 weighted and hyper intensity on T2 weighted images. Most cases of acute cerebellitis are characterized by diffuse abnormalities in both cerebellar hemispheres and absence of cerebral or brainstem lesions. Cases of cerebellitis involving only one hemisphere is rare.

Diagnosis

The diagnosis of acute post infection cerebellitis is one of exclusion diagnosis. Every child should have a brain imaging study. Lumbar puncture is indicated when encephalitis is suspected.

Interventions:

The child was admitted in PICU and closely monitored. The child symptoms were persisting. Had vomiting, neck stiffness, giddiness, ataxia, dysarthria. There was no further episodes of fever or headache. The vitals are stable. The child was receiving IV fluids, maintenance dose and IV antibiotics. Three days after admission symptoms were persisting and there was no signs of improvement. The child was started on IV steroids injection Dexamethasone, loading dose given and maintenance dose of 0.15mg/kg in 2 divided doses were given for next one week. The child showed clinical improvement after starting on steroid. The vomiting subsided and the child was able to sit and walk without support and started to take oral feeds. The IV fluids were stopped two days after starting steroids. On day 10 of steroid, ataxia improved, tone improved but dysarthria was persisting. Repeat CT contrast brain was done after 15 days and the radiological signs resolved.

Signs:

The child was found to be irritable, drowsy, speech was not clear, Extra ocular movements were intact, upper and lower extremity weakness was noted. Mild ataxia and co-ordination was noted. The reflexes were diminished. Babinski signs were absent. Neck rigidity +, kernigs sign+, fundus examination – no papilledema. CBC and electrolytes were normal.

Symptoms:

Fever, headache, vomiting

Significant Details:

Ct Brain Report: An ill-defined hypo dense lesion measuring approximately 38 * 44 * 27 mm seen in right cerebellar hemisphere antero superiorly. The post contrast study cerebellar cortical enhancement is seen.

CONCLUSIONS:

Brief summary of clinical impact or potential implications Acute cerebellitis simulates a tumor clinically. Patients may present with

variety of symptoms from headache to cranial nerve palsy. In our case, CT scan has yielded the diagnosis. But in most cases, CT scan may be normal and need MRI scan. Close monitoring and treatment with steroids has helped the patient to recover from acute symptoms. Treatment with standard dexamethasone dose helped in resolving the radiological signs. We conclude that standard dexamethasone treatment should be used in mild cases of acute cerebellitis. Dexamethasone is highly selective cheaper, fewer side effect and easier to administer. This case was successfully treated with dexamethasone. The cause of cerebellar dysfunction and neurological deficit is due to an altered immune state presiding viral infection. Natural varicella infection and varicella vaccine are definite presiding causes. No other vaccine links to acute cerebellar ataxia.