A rare presentation of primary neuroleptospirosis as cerebellitis with opsoclonus - a case report.

JAGANATHAN
Department of General Medicine,
THANJAVUR MEDICAL COLLEGE

Abstract: Leptospirosis is a zoonotic disease caused by genus leptospira. It is uncommon for leptospirosis to present as a primary neurological disease. Aseptic meningitis was the most common presentation of neuroleptospirosis. Cerebellitis is a rare manifestation. Here we present a case of neuroleptospirosis presented as cerebellitis with opsoclonus.

Keyword: neuroleptospirosis, cerebellitis, opsoclonus

INTRODUCTION
Leptospirosis is a zoonotic disease caused by genus leptospira. Rodents act as a maintenance host especially rats transmitting infection to human beings. >90% of cases are mild anicteric type. 5-10% present as severe form – WEIL’S syndrome. Mortality rate is 5-14% in severe cases. It can affect any organ. Most common CNS manifestation is aseptic meningitis. Its incidence is <15%. Other rare CNS manifestations are cerebellitis, myelitis, movement disorders etc...

CASE REPORT
A 30 yrs old female presented with fever of one week duration. Fever was continuous and associated with chills, rigor and severe headache. She also had giddiness with swaying towards left side while walking. There was no history of convulsions, motor weakness, sensory disturbances, bladder or bowel incontinence. There was no history of jaundice, abdominal distension. Past history does not reveal any history of seizure disorder or any other significant medical illness in the past. No history of trauma, head injury. No history of any drug or substance abuse.

On examination she was conscious, oriented, febrile. There was pallor, no icterus, cyanosis, clubbing, generalized or localized lymphadenopathy. Central nervous system examination reveals normal higher mental functions. Motor system and sensory system examination were normal.

On examination of cerebellum, she had pancerebellar signs like titubation, dysarthria (scanning speech), nystagmus in the form of opsoclonus (rapid, involuntary, multivectorial, unpredictable, conjugate fast eye movements without inter-saccadic intervals), truncal and gait ataxia. Co-ordination was impaired in both upper and lower limb in the form of positive finger-nose test and heel-knee test, dysmetria, dysdiadochokinesia. Romberg sign was negative. There was no neck stiffness or other signs of meningeal irritation.

Fundus examination was normal. All other systems were normal. Investigations showed Hb: 9.5 gm%, total count: 11,000 cells/cu.mm, differential count P60%, L38%, E2%, Platelets 1.6 lakh cells/cu.mm, ESR: 110 mm/1st hr. Random blood glucose 102 mg%, normal renal function tests and liver function tests. ECG, USG abdomen were normal. Chest X-ray normal. Widal: negative, IgM for dengue: negative, PS for MP, MF: negative, HIV I & II: non reactive. Lepto-MSAT:-positive. CSF analysis showed clear CSF with normal pressure, glucose, protein. Cells not found in CSF. Culture was negative. PCR for HSV: negative. CT brain, MRI brain were normal.

Neurophysicians opinion obtained and opinion given as neuroleptospirosis with cerebellitis and opsoclonus. She was treated with injection ceftriaxone 2 gm IV 12th hrly, tab. betahistine 8 mg tds and other supportive measures. After a week of treatment opsoclonus disappeared, unsteadiness improved and all other cerebellar signs improved. She was followed up in medicine & neurology OPD.

DISCUSSION:
Leptospirosis is an important zoonosis caused by pathogenic leptospires and is characterised by a broad spectrum of clinical manifestations ranging from inapparent infection to fulminant and fatal disease. The spirochetes are transmitted after direct contact with urine, blood or tissue from infected rodents. The pathogenic form leptospira interrogans consists of 25 sero-groups such as icterohaemorrhagiae, canicola, pomana which are in turn comprised to nearly 200 serovars (1).

After an incubation period of 1-2 weeks, leptospirosis manifests as a biphasic illness consisting of an initial leptospiraeic phase lasting 3-7 days followed by an immune phase lasting 4-30 days (2).

The clinical spectrum of the disease ranges from the mild anicteric leptospirosis manifesting as an influenza like presentation of fever & myalgia to the far more serious WEIL’S syndrome comprising jaundice, renal dysfunction and bleeding diathesis.
MYELITIS

1. PERIPHERAL NERVOS SYSTEM
- FLACCID paralysis including GBS like presentation
- MONONEURITIS & NEURALGIAS
- AUTONOMIC LABILITY
- FACIAL PALSY
- POLYMYOSITIS

The commonest manifestation of neuroleptospirosis is aseptic meningitis. The common serotypes implicated are L.icterohaemorrhagiae, L.canicola, L.pomana. cerebellitis is one of the rare manifestations of neuroleptospirosis. Cerebellitis presents with ataxia and other cerebellar signs.

Nervous system involvement is essentially immune mediated and gross changes include exudates, leptomeningeal edema, brain & spinal cord congestion and hemorrhage. Microscopically, perivascular round cell infiltration of small and medium sized blood vessels along with patchy demyelination are the prominent features.

TREATMENT:
crystalline penicillin and 3rd generation cephalosporins are the 1st line drugs for severe leptospirosis(5). These are particularly effective during the 1st phase (3-7 days). Role of steroids is unresolved(5).

PROGNOSIS:
The prognosis of neuroleptospirosis is generally good. Meningitis, cerebellitis usually resolves by 3-6 weeks. Altered sensorium, seizures herald a worse prognosis. Rarely, sequelae can occur including uveitis, deafness(6), chronic meningitis.

CONCLUSION:
This case report describes a rare presentation of neuroleptospirosis as cerebellitis with opsoclonus. Since the incidence of leptospirosis is increasing in India(7) and 10-15% of leptospirosis patients present with neurological manifestations, a high index of suspicion for leptospirosis is important in treating patients with fever and neurological manifestations. Early diagnosis and treatment with appropriate antibiotics leads to complete recovery of neuroleptospirosis without any sequelae.

REFERENCES: