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Guillain-Barré Syndrome – Sensory Ataxic Variant

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ABSTRACT

Guillain-Barré syndrome (GBS) is an acute inflammatory polyradiculoneuropathy characterized by rapidly evolving areflexic motor paralysis, with or without sensory disturbance. GBS is manifested as multiple nerve root and peripheral nerve injury. Demyelination is the main electrophysiological and pathological feature of this disease. Cerebrospinal fluid (CSF) analysis will show albuminocytological dissociation. Here we report a rare case of sensory ataxic variant of GBS in a 50-year-old male with no other comorbidities who presented to us with complaints of unsteadiness while walking and tingling sensation over both legs (below knee) for 6 days followed by both upper limbs (below elbow) for 2 days. On examination, deep tendon reflexes were absent in all four limbs with bilateral flexor plantar response. Sensory examination revealed impaired fine touch, vibration and joint position sense up to bilateral knee and elbow with normal pain and temperature sensations. Gait was sensory ataxic type with positive Romberg's test. CSF examination showed normal cell count with elevated protein level. Nerve conduction study showed sensory demyelinating patterns with normal motor component in upper and lower limbs. He was treated with intravenous immunoglobulin for 5 days and recovered completely after 2 weeks.

Keywords: Guillain-Barré syndrome, sensory ataxic variant, albuminocytological dissociation, intravenous immunoglobulin

Guillain-Barré syndrome (GBS) is an acute inflammatory polyradiculoneuropathy characterized by rapidly evolving areflexic motor paralysis with or without sensory disturbance. GBS is manifested as multiple nerve root and peripheral nerve injury. The usual pattern is an ascending paralysis that may be first noticed as rubbery legs accompanied by tingling dysesthesia in the extremities and progressively involves the trunk, the upper limbs and finally bulbar muscles with difficulty in handling secretions and maintaining the airway. Deep aching pain in weakened muscles may present initially. Weakness typically evolves over hours to a few days, often reaching a peak at the 4th week. Subtypes of GBS are acute inflammatory demyelinating polyneuropathy (AIDP), acute motor axonal neuropathy (AMAN), acute motor sensory axonal neuropathy (AMSAN) and Miller-Fisher syndrome (MFS). Autonomic involvement may occur in some patients. Demyelination is the main electrophysiological and pathological feature of this disease. Cerebrospinal fluid (CSF) analysis shows albuminocytological dissociation. It often presents with single-phase self-limiting course for which intravenous immunoglobulin and plasmapheresis are effective. Some patients with sensory neuropathy may exhibit sensory GBS.[1-4] A case report of sensory ataxic variant of GBS is discussed here.

CASE REPORT

A 50-year-old male presented to us with complaints of unsteadiness while walking and tingling sensation over both legs (below knee) for 6 days followed by both upper limbs (below elbow) for 2 days. There were no other comorbidities. Patient had fever 12 days prior to the onset of the above symptoms for which he was treated in a private hospital as an outpatient. There was no history of limb weakness, bowel and bladder disturbances or speech disturbances. There was no history suggestive of cranial nerves, cerebellar, extrapyramidal system involvement. Additionally, there was no history of trauma, neck pain or of addictive habits.

On examination, patient was conscious, oriented, well-built and nourished. Higher mental functions, speech, cranial nerves, motor system and cerebellar examination were normal. Deep tendon reflexes were absent in all four limbs with bilateral flexor plantar response. Sensory

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examination revealed impaired fine touch, vibration and joint position sense up to bilateral knee and elbow with normal pain and temperature sensations. Gait was sensory ataxic type with positive Romberg's test. Ophthalmological examination was normal. Routine investigations were normal. Vitamin B_{12} assay and retroviral test were normal. Magnetic resonance imaging (MRI) brain with cervical screening was normal. CSF examination showed normal cell count, glucose level and elevated protein level. Nerve conduction study showed sensory demyelination pattern in upper and lower limbs with normal motor component.

Based on above examination findings and investigations, a diagnosis of sensory ataxic type of GBS was made. He was treated with intravenous immunoglobulin at a dose of 2 mg/kg for 5 days. Patient showed improvement and ataxia and tingling sensation recovered after 2 weeks.

DISCUSSION

Criteria for diagnosing sensory GBS are:[4,5]

- Acute symmetrical sensory loss
- A peak in symptoms at 4 weeks
- Absent tendon reflexes
- Normal muscle strength
- At least two pieces of evidence for nerve demyelination in electrophysiological examination
- Single-phase course
- Exclusion of other neurological diseases
- No family history
- Increase in protein levels in the CSF in the acute phase.

Since the patient fulfilled all the above-mentioned diagnostic criteria, the diagnosis of sensory ataxic type of GBS was made. To date, only a few cases of pure sensory GBS have been reported.[6] Thus, the clinical and pathological features of sensory variant of GBS have not been well characterized and reduced awareness of these features has resulted in delayed diagnosis and treatment.

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Drug-resistant Strains could Become the Dominant form of TB in Europe

The latest WHO/European Centre for Disease Prevention and Control (ECDC) report, "Tuberculosis surveillance and monitoring in Europe 2019 (2017 data)", shows that the European Region is struggling to make sufficient progress to finally end TB. Challenges in timely detection, which result in ongoing transmission and inadequate treatment are driving resistance. Despite an overall decline in cases, TB remains a major public health issue that is causing patients suffering and perpetuating poverty.

With 30 people diagnosed with TB every hour in the European Region, both patients and health systems are paying a high price. The eastern part of the Region has become the world's drug-resistant TB hot spot. Of the 2,75,000 new diagnoses and relapsed cases, an estimated 77,000 patients are suffering from difficult-to-treat multidrug-resistant TB (MDR-TB). Almost 7,000 patients are battling extensively drug-resistant TB (XDR-TB), an even more extreme form of the disease… (*WHO Europe*)