

Guillain-Barre Syndrome (GBS) Associated with Scrub Typhus: Case Report

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Abstract: A 25 year old female presented with lower limb weakness which was diagnosed to be GBS. Precipitating infection was identified as scrub typhus on basis of serology and the eschar. Patient showed fair improvement after intravenous immunoglobulins.

Keywords: Scrubtyphus, GBS

1. Introduction

Guillain-Barre´ syndrome (GBS) is an illness characterize by areflexic ascending paralysis with minimal sensory involvement [1]. It has been reported as a sequela of several infections and vaccinations that may elicit an immune cross-reactivity with axonal or Schwann cell membranes [2]. Many patients have had an infection within the previous 6 weeks, most commonly a flu-like illness but also *Campylobacter jejuni* gastroenteritis, Epstein-Barr virus (EBV) or cytomegalovirus infections (CMV) [3, 4].

Scrub typhus is an acute febrile illness caused by *Orientia* (formerly *Rickettsia tsutsugamushi*, an arthropod borne obligate intracellular gram negative organism that targets vascular endothelial cells. It is endemic in areas of South East Asia, Japan, Australia and the Pacific islands.[5].

2. Case report

25 year old female was brought to the OPD with complaint of lower limbs weakness for 2 days. Patient became totally bedridden over span of 2 days. There was no history of any trauma, back pain or any fall prior to onset of weakness. She was able to perceive sensations normally. Her family members gave history of she having fever almost 1week days ago which lasted for 2 days and resolved after taking over the counter treatment from chemist. On examination her vitals were stable and sensorium was allright. An eschar was noted below her left breast. (picture of which couldn't be taken as patient denied for same due to obvious reasons).Neurological examination suggested quadriparesis with lower limb weakness more than upper limbs. Tone was decreased in all 4 limbs and deep tendon reflex were absent in lower limbs with hyporeflexia in upper limb. Cranial nerves examination was normal. Her sensory system examination was normal and she was having fair bladder and bowel control.

Lab work up came as: Hb=12g/dl, TLC=9000/mm³, platelets=332000/mm³.SGOT/SGPT=92/81IU/L, ALP=66IU/L.

Serum proteins =6.5g/dl .BUN=16mg/dl, creatinine=0.8mg/dl. ESR=36mm/hr.

CSF analysis suggested= TLC=10 cells with 90%lymphocytes, protein=103mg/dl and sugar=70mg/dl ADA =7U/L.

Nerve conduction studies of patient suggested demyelinating poly neuropathy? AMSAN variant. Patient was started on intra venous immunoglobulins on day third of admission and started showing improvement from next day onwards. She improved significantly over next 5 days and was discharged home in stable condition.

3. Discussion

Scrub typhus can cause generalized vasculitis. Typically, patients with vasculitic neuropathy have painful sensory loss and weakness in the distribution of multiple peripheral nerves, which is referred to as mononeuritis multiplex. [6] However, the systematic review of PNS involvement in scrub typhus is rare. Our case showed the pattern of AIDP (acute inflammatory demyelinating neuropathy) with symmetrical ascending demyelinating motor neuropathy.

Although its pathogenesis has not been completely determined, GBS may be induced by molecular mimicry, toxins, or immune dysregulation. [2]. Peripheral nervous system involvement with scrub typhus has been reported in very few studies. In literature. [7, 8].

4. Conclusion

Scrubtyphus should be considered as possible etiology/triggering factor for GBS especially in endemic areas showing high prevalence of scrub typhus in particular season of the year.

Detailed neurological follow up for patients diagnosed with scrub typhus should be planned.

References

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