

Acute Toxic Neuropathy Mimicking Guillain Barre Syndrome

Muhammed Jasim Abdul Jalal, Shirley Joan Fernandez¹,
Murali Krishna Menon¹

Departments of Family Medicine and ¹Neurology, Lakeshore Hospital and Research Centre, Kochi, Kerala, India

ABSTRACT

Case: A 30 year old male presented with numbness of palms and soles followed by weakness of upper limbs and lower limbs of 5 days duration, which was ascending and progressive. Three months back he was treated for oral and genital ulcers with oral steroids. His ulcers improved and shifted to indigenous medication. His clinical examination showed polyneuropathy. CSF study did not show albuminocytological dissociation. Nerve conduction study showed demyelinating polyneuropathy. His blood samples and the ayurvedic drug samples were sent for toxicological analysis. Inference: Acute toxic neuropathy - Arsenic

Keywords: Guillain-Barre syndrome, indigenous medications, toxic neuropathy

Introduction

Toxic neuropathies are often misdiagnosed as there are no easily available specific or biological tests for the diagnosis.^[1] Toxic neuropathies are suspected on the basis of clinical examination and electrodiagnostic features.^[2] In India Ayurveda, Homeopathy, Siddha and Unani are practiced and serve as a source of poisoning and drug toxicity.^[3]

We report a 30 year-old male who presented with numbness of palms and soles followed by weakness of upper limbs and lower limbs. The present case study emphasizes the need to consider heavy metal intoxication in patients presenting with acute demyelinating neuropathies and history of use of indigenous medications.

Presenting Complaints

- Numbness of palms and soles – 5 days
- Weakness of upper limbs and lower limbs – 4 days
- Dysphagia – 1 day.

History of present illness

This gentleman initially developed bilateral upper limb and lower limb numbness followed by progressive weakness of the lower limbs ascending to the upper limbs. There was history of swaying while walking, buckling of knees and loosening of slippers from foot. There was no history of any breathing difficulty or bladder dysfunction. He developed nasal regurgitation, nasal tone on talking and dysphagia to liquids after 1 day.

Past history

He had history of oral and genital ulcers three months ago which was evaluated and diagnosed as? Behcets/Lichenplanus. He was started on oral steroids. His ulcers improved and he stopped steroids. Later on he shifted treatment from Allopathy to indigenous medication. He was given ayurvedic medicines in the form of powders for 10 days following which he developed his present symptoms.

Clinical examination

On examination, he had bilateral lower motor neuron facial palsy along with bilateral vagal palsy. He had bilaterally weak palmar grip. All his limbs had a power of grade 3 with hypotonia. He was areflexic with bilateral flexor plantar reflex.

Address for correspondence: Dr. Muhammed Jasim Abdul Jalal,
Department of Family Medicine, Lakeshore Hospital and
Research Centre, Nettoor, P. O., Near NH 47, Bypass, Maradu,
Kochi - 682 304, Kerala, India.
E-mail: jasimabduljalal@yahoo.com

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Table 1: CSF study done in the second week

Fluid	Clear
Cells	<5 cells/cubic mm, occasional lymphocytes
Protein	35
Sugar	99
Cytology	Negative for abnormal cells No albumin cytological dissociation

TC: Cells

Table 2: Toxicological analysis of ayurvedic samples

Type of sample	Lead (ppm)	Arsenic (ppm)	Mercury (ppm)
Ayurvedic medicine A	0.50	1.48	BDL
Ayurvedic medicine B	26.6	5.1	1365.6
Ayurvedic medicine C	0.4	BDL	BDL

ppm: Parts per million; BDL: Below detectable limits

Table 3: Permissible limits of heavy metals in Ayurveda/Siddha/Unani/Homeo medicines with only herbal ingredients as per WHO/FDA^{3,4}

Lead	10 ppm
Arsenic	10 ppm
Mercury	1 ppm

FDA: Food and drug administration

Table 4: Toxicological analysis of blood sample

Heavy metals in blood	Levels	Normal values (mcg/dl)
Lead	BDL	<10
Arsenic	45.3	<7
Mercury	BDL	<3

BDL: Below detectable limits

Investigations

His CSF study [Table 1] did not show albuminocytological dissociation. Nerve conduction study showed demyelinating polyneuropathy. His blood samples and the ayurvedic drug samples were sent for toxicological analysis [Tables 2-4].

Course in the hospital

He was treated initially with intravenous immunoglobulin, but did not show much improvement. He spontaneously recovered in time and is now completely symptom free. Skin lesions are under

treatment as skin lesion biopsy was suggestive of Pemphigus vulgaris.

Discussion

- Toxic neuropathies are often misdiagnosed^[3]
- In a survey, 14 of the 70 herbal medical products available commercially were found to contain lead in 13 (median concentration, 40 mg/g; range, 537,000), mercury in 6 (median concentration, 20,225 mg/g; range, 28104,000), and/or arsenic in 6 (median concentration, 430 mg/g; range, 378130). If taken as recommended by the manufacturers, each of these 14 drugs could result in heavy metal intakes above published regulatory standards^[3,4]
- Users of herbal medical products may be at risk for heavy metal toxicity; therefore, testing of ayurvedic drugs for toxic heavy metals should be mandatory.^[5-7]

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