

## Case Report

# Challenges for treatment of alcoholic neuropathic symptoms aggravated by niacin treatment of alcoholic pellagra



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## 1. Introduction

Pellagra is the disease manifestation of niacin deficiency. It is currently seen in association with other conditions of chronic nutritional deficiencies, like alcoholism. Alcoholic neuropathy is a condition of bilateral degeneration of peripheral nerves. The incidence of neuropathy in chronic alcoholism has ranged widely in the literature from 9 to 67% [1]. It manifests by altered superficial sensations and pain. Given that patients with chronic alcoholism commonly have malnutrition and that alcoholism is, at present, the commonest documented cause of pellagra in developed countries [2], theoretical implications point toward the possibility of coexistence of alcoholic neuropathy and alcoholic pellagra. But such a comorbidity has only been scarcely reported so far in the literature [3,4]. The nature of this association being either co-incidental or etiological is far from understood. For example, Cunha et al. found that neuropathy was equally reported in alcoholic patients with and without comorbid pellagra [5]. This coexistence represents an important clinical situation both as the clinical presentation and as a treatment challenge. Our case presented with one of these important treatment challenges because of another rare adverse effect of niacin administration in the form of aggravation of neuropathic symptoms subsequent to niacin administration. Balancing both the treatments

of pellagra and alcoholic neuropathy became a therapeutic challenge, especially in the background of diffuse cortical atrophy.

## 2. Case report

Index patient R/K presented to the psychiatric outpatient's department with the complaints of consuming alcohol for the past 15 years, difficulty in walking, on and off pins-and-needles sensation and pain in lower limbs for the past 1 1/2 years, recurrent diarrheas and rashes on hands and legs for the past 6 months. Clarification of past history revealed a chronic alcohol consumption since past 15 years with progressive weakness, continuous burning sensation and episodic pain sensation in lower limbs since past 1 1/2 years. On examination, patient had alcohol withdrawal symptoms, power loss in lower limbs, sensory loss and paresthesias in both lower limbs, left more than the right. There were scaly rashes on the exposed parts of both upper and lower limbs [Fig. 1]. Among investigations, estimation of Vitamin B1 levels was done with blood sample on the day of admission. The Vitamin B1 level was 1.7 µg/dl (normal range 2.5–8 µg/dl). The patient was started on detoxification therapy with lorazepam 10 mg in divided doses, Vitamin Neurobion complex (consisting of Vitamins B1, B6 and B12) on the same day of admission. Further symptomatic treatment was given according to the withdrawal symptom. During the detoxification therapy, weakness in lower limbs, burning sensation, pins-and-needles sensation and skin lesions persisted. Patient was referred to the neurology department for assessment of these complaints. On investigations, the computed tomography scan of brain revealed diffuse atrophy of cerebral cortex and cerebellum [Fig. 2]. Nerve conduction velocity (NCV) testing was done. NCV reports showed absent sensory nerve action potentials in the left superficial peroneal and left sural nerves and prolonged F-wave latencies on bilateral median and posterior tibial nerves (Fig. 3). After correlating with the clinical assessment, the diagnosis was established as asymmetric predominant sensor axonopathy of lower limbs. Other causes of neuropathies were excluded with a series of tests like liver function tests, kidney function tests, serum electrolytes and fasting and postprandial blood glucose levels, which showed normal values. Venereal disease research laboratory test and enzyme-linked immunosorbent assay tests for syphilis and HIV, respectively, showed negative results. After the acute treatment of alcohol withdrawal, patient was referred to dermatology department.

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Fig. 1.

Patient was referred to the dermatologist for further evaluation and treatment of skin lesions. After assessment by the dermatologist, he was diagnosed as having pellagra. This diagnosis was mainly done on the characteristic pattern of scaly skin lesions on exposed

parts along with the associated gastrointestinal symptoms of recurrent diarrheas. The rashes were scaly in nature and were present on all four limbs in the exposed areas. He was started on clinical dose of niacin (500-mg QD dose), and the niacin levels were

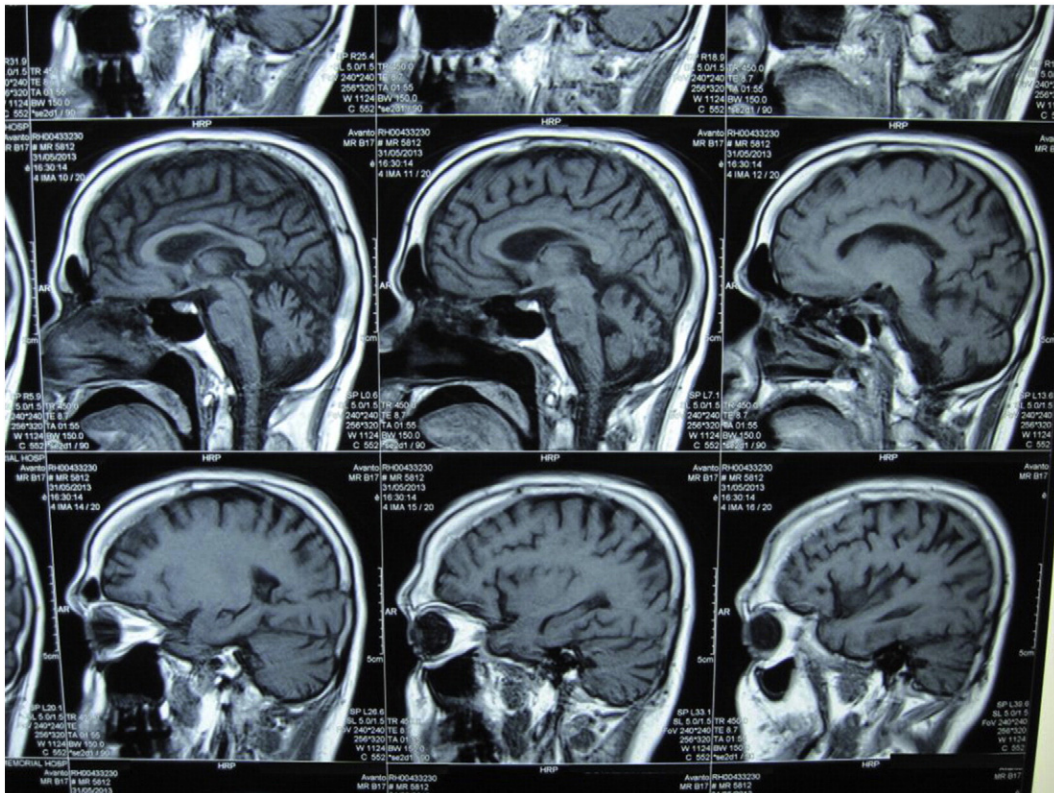


Fig. 2.

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