

## Two Beers and a Bad Taco: A Recipe for Wernicke-Korsakoff Syndrome



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### Abstract

#### Introduction:

Wernicke-Korsakoff(WK) syndrome is known to be one of the most serious neurologic consequences of thiamine deficiency secondary to malnutrition and most commonly, excess alcohol use. The presenting symptoms of WK syndrome often include ophthalmoplegia, ataxia, and confusion. However, various studies have indicated that less than 10% of patients present with the triad of symptoms. Most often, mental status change is the most common presenting symptom.<sup>1,2</sup> Moreover, patients with alcohol use disorder often present to the hospital with other medical complications of their alcohol consumption, including pancreatitis or alcoholic hepatitis, so the underlying neurologic syndrome related to thiamine deficiency can be missed.

#### Case Description:

A 51-year-old Bangladeshi man presented to the emergency department (ED) with complaints of nausea, vomiting, diarrhea, and substernal chest pain after consuming “two beers and a bad taco”. He provided incongruent information to different providers, including his country of origin, where he resided, and the events preceding arrival to the ED. Previous outside records indicated visits to multiple

different hospitals in different cities across the country. Physical exam was significant for severe cachexia, scleral icterus, horizontal-gaze nystagmus, periumbilical tenderness, and thick hyperkeratotic plaques affecting the palms, soles, and extending up the calves. On laboratory workup, white blood cell count was 17.5/mm<sup>3</sup>, AST 97 U/L, ALT 35 U/L, lipase 4706 U/L, and blood alcohol level <10 mg/dL. He was admitted and treated for acute pancreatitis with fluid resuscitation. Given the presence of the hyperkeratotic lesions, a nutritional work-up was performed and was significant for severe malnutrition with low zinc levels (0.32, N 0.66-1.10 mcg/ml), vitamin A (8, N 15-60 mcg/dl), and 25-hydroxy vitamin D (8.4, N 20-50 ng/ml). Nutritional supplementation including intravenous thiamine, zinc, vitamin A, and D was initiated, and psychiatry was consulted to assess cognitive ability in the setting of no known prior psychiatric diagnosis. He displayed deficits in autobiographical memory and spatiotemporal narratives as well as circumstantial and illogical thought association. His Montreal Cognitive Assessment score was 15/27 and mental state was notable for confabulation and an abulic affect to situations. Findings on MRI of the brain of global brain parenchymal volume loss out of proportion to that expected for the patient's chronological age, and his clinical findings were all felt to be consistent with Wernicke-Korsakoff

syndrome. The patient chose to leave the hospital before the treating physician recommended discharge and was lost to follow up.

**Discussion:**

This case demonstrates the sequelae of chronic alcoholism leading to thiamine deficiency and the development of Wernicke-Korsakoff syndrome with confabulations and memory loss. Recurrent “subclinical” signs of Wernicke-Korsakoff syndrome may often be missed by clinicians in patients with inconsistent healthcare utilization and varying providers during each ED visit. If thiamine deficiency is recognized early, there may be reversibility of the neurologic features, but in this case, there was no recognized irreversibility, as is typically seen with Wernicke-Korsakoff syndrome. While often non-specific, it is crucial for the clinician to carefully observe and assess patients that may have signs of Wernicke’s encephalopathy so treatment can be initiated prior to development of permanent neurologic damage.

***Biography:***

Dr. Saumya M. Shah is currently an internal medicine resident at the Mayo Clinic in Rochester, MN. She completed her medical school at the Mayo Clinic School of Medicine and is interested in a career in academic medicine.

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