

The Neurological Toll of Starvation: Wernicke's Encephalopathy in Anorexia Nervosa

Kristina Petrucci, PA-C
Hadley Tate, PA-C

Background

- Anorexia nervosa is an eating disorder characterized by food restriction and malnutrition with resultant medical complications.
- This includes Wernicke's encephalopathy, a severe neuropsychiatric condition caused by thiamine (vitamin B1) deficiency due to limited dietary intake and impaired nutrient absorption.
- Untreated, Wernicke's encephalopathy can progress to Korsakoff syndrome, an irreversible condition with severe memory impairment.

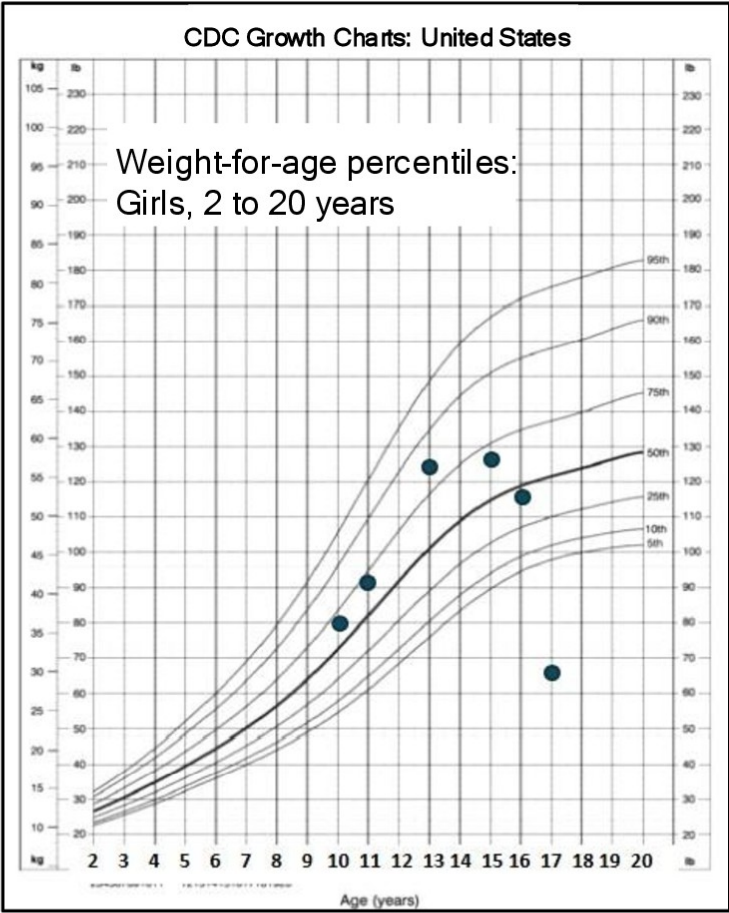


Figure 1

Objectives

1. Discuss diagnostic testing and symptomatology of Wernicke's encephalopathy
2. Identify potential complications of delayed or inadequate treatment of Wernicke's
3. Propose strategies for prevention in patients with identified malnutrition

Case Review and Discussion

- A 17-year-old child with BMI 11.31 presented hemodynamically unstable (bradycardic, hypotensive, hypothermic) for weakness and fatigue.
- Weight loss of 28 kg over the past 2 years (see Fig 1).
- On exam, ill appearing, disoriented with dysmetria (finger to nose and heel to shin testing), horizontal nystagmus.
- All Caine Criteria (nutritional deficiency, oculomotor abnormalities, cerebellar dysfunction, altered mental status) were met to clinically diagnose Wernicke's encephalopathy. Additional causes of altered mental status (such as infection or ingestion) were ruled out.
- Wernicke's is a clinical diagnosis by Caine Criteria. Imaging such as an MRI or labs including thiamine levels can be considered but are not necessary for diagnosis.

Interventions

- The patient was admitted to the intensive care unit, treated with high-dose IV thiamine, followed by oral supplementation for 3 months.
- Within days of thiamine replacement and slow introduction of nutrition, their neurological deficits improved and eventually resolved.
- The patient was transferred to the inpatient medical psychiatric unit and was ultimately discharged to an inpatient eating disorder facility for continued treatment.

Conclusions

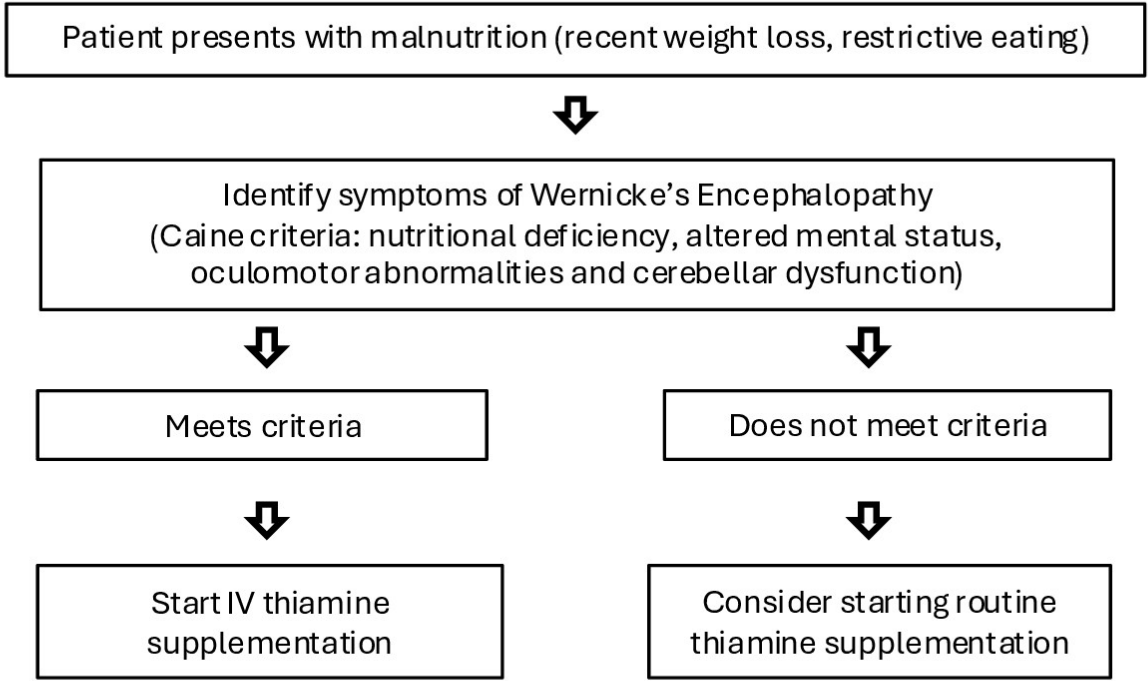


Figure 2