

## **Conference**

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## **Title**

The Danger of Weight Loss Medications: A Case of Thiamine Deficiency and Orthostatic Hypotension Induced by GLP-1 Receptor Agonist Therapy

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## **Case Diagnosis**

Thiamine deficiency and Wernicke's encephalopathy due to gastroparesis and recurrent vomiting from GLP-1 receptor agonist

## **Case Description**

A 62-year-old female presented to the ER with diplopia, hallucinations, hypotension, persistent nausea/vomiting, weight loss, and poor medication adherence after starting tirzepatide two months earlier for weight loss. This medication was initiated by her primary physician at a higher than suggested starting dose despite her history of gastroparesis, gastroesophageal reflux disease, and eosinophilic esophagitis. Neurological examination revealed dysmetria, impaired short-term memory, confusion, reduced sensation in the upper arms, bilateral lower extremity tingling, and orthostatic hypotension. Lab testing demonstrated medication-induced thiamine deficiency. This was treated with IV and oral supplementation. Orthostatic hypotension was managed with compression therapy, midodrine, and fludrocortisone. She received comprehensive care at an inpatient rehabilitation facility and progressed from contact guard assist to supervision level for mobility and showed improved memory and attention. Midodrine and fludrocortisone were discontinued after further therapy at a skilled nursing facility.

## **Discussion**

GLP-1 agonists, such as tirzepatide, in patients with gastroparesis can worsen gastrointestinal symptoms, including nausea and vomiting. There have only been a few cases linking GLP-1 agonist use to thiamine deficiency. This case demonstrates the risks of using GLP-1 receptor agonists in patients with pre-existing gastrointestinal conditions. The patient's ongoing vomiting from gastroparesis led to malnutrition and thiamine deficiency, resulting in Wernicke's encephalopathy.

## **Conclusions**

Careful consideration is needed when prescribing GLP-1 receptor agonists to patients with gastrointestinal disorders, especially gastroparesis. Nutritional intake and signs of nutritional deficiencies, such as thiamine deficiency, should be closely monitored with such history or alternative treatments should be considered. Managing disability from nutritional deficiencies through physical and cognitive rehabilitation can significantly improve patient outcomes.