Wernicke’s Encephalopathy secondary to hyperemesis gravidarum in a female presenting for psychiatric admission post-termination

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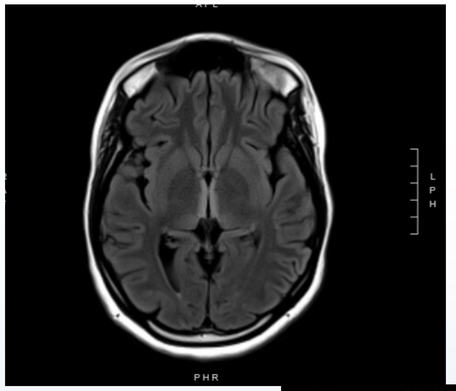
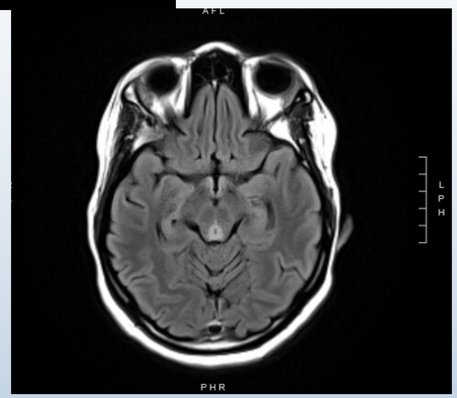
Background

The differential diagnosis for a patient presenting with new onset psychiatric symptoms is broad and must include careful consideration of potential medical causes. The following case of a female of childbearing age presenting with behavioral changes and “depression” illustrates the importance of a thorough medical evaluation, as she was ultimately diagnosed with Wernicke’s encephalopathy secondary to hyperemesis gravidarum.





MRI Findings (above and right): Symmetrical bilateral medial thalamic, periaqueductal midbrain and dorsal pontine signal abnormalities. Pattern of acute brain disease is most suggestive of Wernicke’s encephalopathy.

Case

An 18-year-old female with no prior psychiatric history presented to the emergency department due behavioral changes for 2 weeks following an elective abortion at 10 weeks gestation. Upon presentation, she was unable to provide a detailed history, but endorsed feeling depressed and “numb.” Her parents described apathy, social withdrawal, decreased speech, poor attention to hygiene, circadian rhythm disturbance, confusion, and worsening memory. She had complained of vague somatic symptoms including generalized pain and numbness. Her parents reported unsteady gait and presumed physical weakness, though they noted her amotivation as a confounder. They observed poor oral intake due to severe nausea and vomiting both during her pregnancy and following termination. There was no history of alcohol use.

On exam, she was disheveled and mildly tachycardic with both vertical and horizontal nystagmus. Mental status exam was notable for inattention, blunted affect, and paucity of speech with delayed initiation. There was no posturing, grimacing, catalepsy, or automatic obedience suggestive of catatonia. Initial labs were notable for cannabinoids on toxicology screen and iron deficiency anemia. Head CT in the emergency department was negative for acute abnormalities. She was admitted to the inpatient psychiatric unit due to inability to care for self with a differential diagnosis of depressive disorder, substance induced mood disorder, first break psychosis, conversion disorder, or regression due to the stress of her abortion.

Following admission, she refused to ambulate, was selectively mute, and did not cooperate with physical exams or interviews. She appeared drowsy with fluctuating mental status and confusion. She refused medications and meals, was incontinent of urine, and staff observed episodes of emesis.

On hospital day four, she became tachycardic to the 160s with new leukocytosis. Physical exam was notable for lower extremity weakness, bilateral ankle clonus, upper extremity rigidity, and ataxia. She was transferred to the internal medicine service for further evaluation and treatment. Her work-up revealed increased CSF glucose on lumbar puncture with EEG, TSH, B12, and folate within normal limits. MRI was notable for medial thalamic, periaqueductal midbrain, and dorsal pontine abnormalities, consistent with Wernicke's encephalopathy. She was started on IV thiamine with subsequent improvement in her delirium, nystagmus, clonus, ataxia, and weakness. She was discharged on oral thiamine with home physical therapy.

Since a blood thiamine level was not collected prior to repletion, a deficiency was not objectively quantified. However, given her MRI findings and improvement on thiamine, she was given a diagnosis of Wernicke’s encephalopathy secondary to hyperemesis gravidarum with cannabinoid use as a possible contributing factor.

Discussion

In Oudman’s (2019) systematic review, thiamine deficiency occurred between weeks 10 and 15 of pregnancy following a median of 7 weeks of vomiting. Our patient’s pregnancy was terminated at 10 weeks, yet her vomiting was severe enough to induce Wernicke’s encephalopathy. While only 10% of patients with Wernicke’s encephalopathy display the classic triad of ophthalmoplegia, ataxia, and altered mental status (Sinha, 2019), our patient presented with all three.

Conclusions

This case addresses a gap in the literature documenting Wernicke’s encephalopathy presenting after an elective termination. Although this patient presented with a psychiatric chief complaint, evaluation yielded an organic diagnosis with high morbidity, demonstrating the importance of a broad differential and the overlap in symptoms between Wernicke’s encephalopathy and a mood disorder. Additionally, this case highlights the importance of thiamine supplementation in hyperemesis gravidarum, including post-pregnancy, if nausea continues.

References

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