

Wernicke's Encephalopathy Complicating Hyperemesis Gravidarum - A Rare Case Presentation

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ABSTRACT

Case presentation: 22 years old primigravida with 14 weeks period of gestation came with complaints of excessive vomiting for 2 weeks. On admission her vitals were stable with GCS 11/15. On examination patient had bilateral nystagmus with left sided facial twitching. Her serum biochemical values were found to be deranged. MRI finding suggestive of Wernicke's encephalopathy. Patient treated with intravenous thiamine and other electrolyte corrections given. Gradually her ocular signs and electrolyte derangement improved. Discussion: Wernicke's encephalopathy is a neurological disorder, due to thiamine deficiency. It is commonly due to heavy alcohol consumption. Conclusion: This case is reported here due to its rarity in pregnancy associated hyperemesis gravidarum.

Keywords: Hyperemesis, Electrolyte imbalance, Thiamine, Wernicke's.

INTRODUCTION

Nausea and vomiting are the most common symptom in the first trimester during pregnancy. Hyperemesis gravidarum is a serious complication of uncontrolled vomiting during pregnancy.¹ Nausea and vomiting of pregnancy is a common condition with prevalence for nausea of 50–80% and for vomiting of 50% in the first trimester due to high levels of beta hCG around 10 weeks.² In pregnancy incidence of hyperemesis is of about 0.3-3%. Wernicke's encephalopathy (WE) is a serious neurological disorder due to severe thiamine deficiency. It is prevalent among alcoholics. It can also be seen in prolonged starvation and post-bariatric surgery. In pregnancy it is a rare complication of severe hyperemesis gravidarum.³ Wernicke's encephalopathy clinically manifests as ocular disturbances, ataxia

and mental status changes.⁴ Optic neuropathy associated with visual loss is a rare manifestation of Wernicke's encephalopathy.⁵ There is no specific lab investigation available to diagnose Wernicke's encephalopathy. Untreated Hyperemesis can lead to life-threatening condition like central pontine myelinolysis (CPM) due to electrolyte derangements.⁶ Thiamine deficiency can lead to fatal complications like spontaneous abortion, fetal loss. MRI is the best imaging modality because it is highly specific (93%) and comparatively safer in pregnancy.⁶ Without active management WE can lead to permanent neurological deficits and Korsakoff syndrome.⁷ Wernicke's encephalopathy is potentially fatal yet reversible condition when treated promptly. Here we present a rare case of hyperemesis gravidarum prolonging into second trimester and leading to WE.

Presentation of Case

27-year-old G2P1L1 / 18 weeks/ previous LSCS presented with excessive vomiting for ten days, associated with giddiness and myalgia and decreased frequency of urination for the past 5 days. On general examination, she was afebrile, disoriented not anemic. Her Vitals within normal limits. GCS-11/15 (E4V3M4). CNS examination showed bilateral nystagmus present, right eye ophthalmoplegia was elicited Right 6th nerve palsy present. Cardio respiratory status was normal. Per abdomen –uterus 18 weeks, relaxed, FHS good. Lab reports on admission shown in table below

Table 1: Lab parameters at discharge

Parameters	Values on admission	On day 6	On discharge
Hemoglobin	13.4gms/dl,	11.3 gms/dl,	11.1 gms/dl,
PCV	38.8	33.1	33.0
Platelets	1.8 lakh	1.51 lakh	1.54 lakh
Urea	9mmol/L	8.5 mmol/L	7 mmol/L
creatinine	0.4	0.4	0.4
Sodium	126mmol/L	130 mmol/L	133 mmol/L
Potassium	2.73mmol/L	3.7 mmol/L	4 mmol/L
Chloride	84.8mmol/L,	96 mmol/L	101 mmol/L
Bicarbonate	26mmol/L	22 mmol/L	18 mmol/L
Urine ketones	3+	Nil	Nil

During hospital stay patient complained of blurring of vision and headache. Neuro physician opinion obtained MRI done. Reported as Bilateral thalamic infarct due to internal cerebral vein thrombosis. Diagnosed as Wernicke's encephalopathy based on clinical symptoms, lab values, and MRI report. Case discussed with physician shifted to ICU and potassium correction given with Inj. KCL 40 mEq in 500 ml NS over 4 hours for 2 cycles. Sodium correction was done using 3% NaCl . She was started on Inj. Thiamine 100mg intravenously once a day for 5 days. Inj.LMWH 0.6mg subcutaneously twice daily for 5 days was given. Ophthalmic examination showed normal fundus oculi. No evidence of papilledema. Patient condition remarkably improved after thiamine infusion and electrolyte correction. On discharge she was stable and her ocular signs resolved, nystagmus disappeared. Lab parameters at discharge is listed above (Table 1).

Discussion

Wernicke's encephalopathy is a rare complication caused by HG which causes an acute neuropsychiatric condition. A high index of suspicion is necessary in case of hyperemesis leading to Wernicke's encephalopathy. Thiamine, a naturally available water-soluble vitamin is an essential co factor in biochemical pathways in the brain. Its deficiency leads to myelin sheaths of pons more sensitive to changes in serum potassium and sodium.⁶In our case patient had significant vomiting which led to Wernicke's encephalopathy. As stated by ACOG 2018, ketosis and vitamin deficiency should be corrected promptly².Electrolyte correction with Thiamine supplementation significantly improved the patient's condition.

As previously stated, Wernicke's encephalopathy is a potentially fatal yet reversible condition if the diagnosis is made early and managed appropriately. Electrolyte replacement and glucose hemostasis plays a significant role in prevention of Central Pontine Myelinolysis.

ACOG 2018 recommends Thiamine supplementation is mandatory for women with severe hyperemesis gravidarum.² It should be preferably started before dextrose infusion to prevent WE⁶. Several case reports states that hyperemesis may lead to various electrolyte abnormalities including hyponatremia, hypokalemia and hypophosphatemia.^{6,7}

Conclusion

Wernicke's encephalopathy is a potentially reversible condition if treated early. Thiamine supplementation is crucial for women with severe hg. Central pontine myelinolysis is one of the life-threatening complication caused by wernicke's. The clinician should have this

clinical presentation in mind while evaluating hg. Timely usage of available preventive measures helps to prevent fatal outcomes. Hence adequate electrolyte correction and thiamine supplementation in pregnant women with prolonged vomiting helps in the prevention of developing wernicke's encephalopathy and other related pathologies.

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Conflicts of Interest

There are no conflicts of interest.

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