## Hyperemesis Gravidarum Leading to Fetal Demise and Wernicke's Encephalopathy Lauren Barta, MD; Iryna Chugaieva, MD; Mikayla Troughton, MD Department of Anesthesiology, University of Minnesota Medical Center, Minneapolis, MN

# Background

- gravidarum<sup>1</sup>
- thiamine supplementation
- hyperemesis gravidarum<sup>2</sup>
- incontinence, and blurry vision

• Wernicke's encephalopathy (WE) is a rare complication of thiamine deficiency – which can occur with prolonged vomiting, as in hyperemesis

Complete neurological recovery depends on prompt diagnosis and early

• In 2019, **177 cases** of WE had been identified in patients with

We report a case of WE diagnosed in a parturient who had preexisting hyperemesis gravidarum, and presented with lower extremity weakness,

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**Figure 1.** MRI Brain demonstrating hyperintense lesions in the medial thalami on coronal FLAIR



## **Case Presentation**

## **Presentation & Intraoperative** Course

## Postoperative



- transferred to the ICU



 17 year old G1P0 at 20w0d with obstetric history of hyperemesis gravidarum, presented with progressive lower extremity weakness, paresthesias, incontinence, blurry vision, intermittent confusion, and found to have an IUFD • Pre-eclampsia was ruled out, MRI without obvious intracranial or spinal pathology • Worsening tachycardia, thrombocytopenia (91,000) and concern for DIC in the setting of known IUFD prompted urgent cesarean delivery under general endotracheal anesthesia

Became increasingly lethargic on postoperative day 1 and lost patellar reflexes –

 Neurocritical care overread of the MRI suggested bithalamic hyperintensity on FLAIR imaging, and thiamine repletion was promptly initiated for presumed WE • Mental status improved within 24 hours, lower extremity weakness remained, discharged to acute inpatient rehabilitation on postoperative day 17





## Discussion

Thiamine deficiency affects energy metabolism, particularly in neural parenchyma which results in cell death. More than 50% of patients with hyperemesis gravidarum and WE show liver enzyme abnormalities and have elevated lactate levels.<sup>1</sup>

Brain MRI reveals hyperintensity in the medial thalami, in combination with clinical signs of encephalopathy, ataxia and oculomotor symptoms should prompt a high index of suspicion for WE. Thiamine should be initiated promptly, and clinical improvement can be seen as quickly as 6 hours.

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## Adults store approximately **18 days** of thiamine supply. In pregnancy requirements increase, and WE tends to occur between 10 - 15 weeks of gestation after parturients have been vomiting for a median time of 7 weeks.<sup>2</sup>



## References

- 1) Kotha (2013) Neuroradiol J. 1;26(1):35–40
- 2) Oudman (2019) European Journal of Obstetrics &
- Gynecology and Reproductive Biology. 236: 84-93

