Teaching NeuroImages: Nonalcoholic Wernicke Encephalopathy

Grant Hansen, BS¹*, Eunjee Kim, BA MBA¹*, Sathorn Thakolwiboon, MD², Jongyeol Kim, MD²

*Corresponding author.

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1 School of Medicine, Texas Tech University Health Sciences Center, 3601 4th Street, Lubbock,

Texas, United States

2 Department of Neurology, Texas Tech University Health Sciences Center, 3601 4th Street STOP 8321, Lubbock, Texas, United States

* These authors contributed equally to the manuscript.

To whom correspondence should be addressed: Jongyeol Kim, MD, E-mail: jongyeol.kim@ttuhsc.edu

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A nonalcoholic 40-year-old female with chronic gastritis who had lost 50 pounds in the past 45 days presented with dyscoordination and diplopia. Examination showed confabulation, ophthalmoplegia, nystagmus, and appendicular ataxia. Brain MRI (Figure) showed DWI and FLAIR abnormalities suggestive of Wernicke encephalopathy (WE). With classic triad of WE and MRI findings, intravenous thiamine 500 mg TID was administered for 3 days, followed by maintenance oral thiamine. The patient showed significant improvement. Thiamine replacement therapy should be considered in patients with malnutrition or malabsorption as it is important in maintaining cellular osmotic gradients. Thiamine deficiency may lead to cytotoxic edema, especially in high metabolic demand regions such as thalami and mammillary bodies.¹
## Appendix 1 Authors

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grant Hansen, BS</strong></td>
<td>Texas Tech University Health Sciences Center, Lubbock, TX</td>
<td>Drafting and revising of the manuscript, participated in data acquisition and interpretation</td>
</tr>
<tr>
<td><strong>Eunjee Kim, BA MBA</strong></td>
<td>Texas Tech University Health Sciences Center, Lubbock, TX</td>
<td>Drafting and revising of the manuscript, participated in data acquisition and interpretation</td>
</tr>
<tr>
<td><strong>Smathorn Thakolwiboon, MD</strong></td>
<td>Texas Tech University Health Sciences Center, Lubbock, TX</td>
<td>Critically reviewing the manuscript, contributed to the drafting and revising of the manuscript, conceptualization of the work</td>
</tr>
<tr>
<td><strong>Jongyeol Kim, MD</strong></td>
<td>Texas Tech University Health Sciences Center, Lubbock, TX</td>
<td>Contributed to the drafting and revising of the manuscript, conceptualization of the work, and supervision</td>
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Reference

**Figure.** MRI finding of the brain.

DWI shows symmetrical hyperintensities in the mammillary bodies (A) and the dorsomedial thalami (B). FLAIR shows hyperintensities in the periaqueductal area (C solid arrow, F box), the mammillary bodies (D, F solid arrows), the medial thalami (E solid arrows), and superior and inferior colliculi (C, F outlined arrows).
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