Teaching NeuroImages: Concomitant Brain and Spine Lesions Due to Multiple Nutritional Deficiencies

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28-year-old vegetarian female with pernicious anemia developed progressive leg spasticity and psychosis leading to food paranoia and severe malnutrition. She presented with encephalopathy, anemia, hypoalbuminemia, and severe deficiency of zinc and vitamins B1, B6, B12. MRI revealed a lesion of the splenium of the corpus callosum (figure1) and spinal cord changes (figure2). This case shows a combination of findings associated with vitamin deficiencies: corpus callosum (B-Complex, Marchiafava-Bignami-disease)¹ and spinal cord (B12, subacute combined degeneration)². Primary
demyelinating, autoimmune, metabolic disorders (Cu, VitE) were ruled out given the clinical context and workup. After treatment, the psychosis resolved; the spasticity and weakness improved.

Appendix 1: Authors

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<thead>
<tr>
<th>Name</th>
<th>Location</th>
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</tr>
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<tbody>
<tr>
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References:


Figure Legends:

Figure 1: Brain MRI with splenium of the corpus callosum lesion showing hyperintense T2/FLAIR signal (A) and fluid restriction on DWI/ADC (B/C).

Figure 2: Spine MRI showing the involvement of the posterior cord (Dorsal Column) and the lateral tracts (Including the Corticospinal Tracts) spanning the entire cord (A and B, sagittal section). Demonstrating the characteristic “inverted V sign” at the level of the cervical spine (C and D) and the lumbar spine (E).
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