Thyrotoxicosis-associated Wernicke's Encephalopathy

To the Editors:—I read the article by Bonucchi et al. with interest.¹ The authors discuss a case of severe Wernicke's encephalopathy (WE) that developed in a non-alcoholic inpatient likely related to a 2-week period of poor nutritional intake in combination with the development of thyrotoxicosis.¹ Although this report is worthy of our appreciation, I think it is also worth further comments.

First, the statement that WE is a rare neurological disorder is inaccurate and in clinical practice might lessen the awareness and early accurate diagnosis of this syndrome. Really, WE is common relative to other neurological disorders; it may be encountered in a myriad of clinical settings, and clinical suspicion is essential for diagnosis because the typical course is observed in only 16% of patients.² Moreover, autopsy studies have shown that 75–80% of cases in adults and 58% of cases in children had been missed by routine clinical examination.²

Second, the route of administration, doses, and duration of thiamine supplementation has not been specified. On account of the catastrophic clinical course of the patient studied, it is extremely important to specify these findings. Indeed, the optimum dose, frequency, route, and duration of thiamine treatment for prophylaxis or treatment of WE have still not been validated from controlled clinical trials.²

Third, the statement that the biological half-life of thiamine is 9–18 days is incorrect and this should be further clarified.

About 20 days is the sufficient time to deplete the body's reserves of the vitamin. Thus, any condition of unbalanced nutrition that lasts for 2–3 weeks can lead to thiamine depletion and WE.² The half-life of thiamine after intravenous administration is 96 minutes, whereas the elimination half-life after oral administration is 154 minutes.³ This short half-life explains the need of administering thiamine 3–4 times per day for patients with WE and those at risk of developing it.

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