

LETTER TO THE EDITOR

Rapid onset of Wernicke's syndrome after gastric balloon positioning

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Although well recognized after malabsorptive weight loss surgery,¹ little is known about the impact of micronutrient deficiency in subjects undergoing restrictive weight loss interventions.² We report a case of a 40-year-old super-obese woman (body mass index (BMI): 64 kg/m²) developing Wernicke's encephalopathy (WE) following Bioenterics intragastric balloon (BIB) positioning (performed as a preliminary step towards subsequent gastric bypass procedure).

At 1 day after BIB placement, she presented persisting vomiting. In the following 9 days, the patient continued vomiting and presented psychomotor agitation, diplopia, nystagmus, visual hallucinations, delusions and confabulations. Neurological examinations showed severe speech disturbance, gait impossibility for balance disturbance, mild strength decrease and severe decrease of osteotendinous reflexes of the four limbs. Bilateral Babinski's sign was present. Clinical signs and reduced thiamine (B1) concentrations (0.1 mcg/100 ml, normal value 0.5–1.3 mcg/100 ml), allowed for a WE diagnosis.

A gastroscopy was performed and the BIB, migrated to the antropyloric region, was removed.

Supplementation of vitamin B12 (1000 mcg/week), folate (5 mg/day) and B1 (1500 mg/day for 5 days intravenous loading dose, then 100 mg/day oral administration) was started.

Brain magnetic resonance imaging (MRI) showed no major abnormalities, although a 4 Tesla MRI was not performed for her extremely high BMI.

After 6 months of motor and speech therapy, the patient was able to walk with minimal assistance and was autonomous in all daily activities.

Super-obese patients with severe preexisting comorbidities present a challenge in the field of bariatric surgery because of the extremely high rate of perioperative morbidity and mortality. To reduce the risk of surgery, a significant weight loss, with consequent improvement in comorbid conditions, is indicated before undergoing surgery. BIB results, in most cases, a simple and conservative technique with low complication rates and excellent results in the early treatment of these patients.³

Being BIB a conservative procedure, a micronutrients deficiency is rarely encountered and, therefore, often not screened. However, an intense and persistent vomiting can exacerbate the vitamin,

mineral and protein deficiency occurrence. In the only previously described case of WE after BIB, polyneuropathy (which is not one of the WE diagnostic criteria) was the major clinical manifestation.⁴ In our case all the components defining WE diagnosis (ataxia, ophthalmoplegia, nystagmus and mental confusion) were reported.

Moreover, at variance with Chaves,⁴ we assessed both thiamine concentration and the MRI picture. Accordingly, our case report results as the first well-described and unmistakable WE case after BIB.

A relevant aspect is the very early onset of clinical manifestations. This is likely to be due to a rapid micronutrients deficiency secondary to the persistent vomiting.

The relevant role of the vomiting as a risk factor for WE in subjects undergoing restrictive surgery is recognized.²

Physicians involved in BIB patients management must consider WE risk in hyperemetic subjects. BIB removal, with a concomitant thiamine supplementation, has to be taken into account as an emergency procedure. Early treatment can rapidly improve the clinical conditions, avoiding permanent deficiencies.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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REFERENCES

- 1 Rothkopf MM, Sobelman JS, Mathis AS, Haverstick LP, Nusbaum MJ. Micronutrient-responsive cerebral dysfunction other than Wernicke's encephalopathy after malabsorptive surgery. *Surg Obes Relat Dis* 2010; **6**: 171–180.
- 2 Scarano V, Milone M, Di Minno MN, Panariello G, Bertogliatti S, Terracciano M *et al*. Late micronutrient deficiency and neurological dysfunction after laparoscopic sleeve gastrectomy: a case report. *Eur J Clin Nutr* 2012; **66**: 645–647.
- 3 Spyropoulos C, Katsakoulis E, Mead N, Vagenas K, Kalfarentzos F. Intragastric balloon for high-risk super-obese patients: a prospective analysis of efficacy. *Surg Obes Relat Dis* 2007; **3**: 78–83.
- 4 Chaves LC, Faintuch J, Kahwage S, Alencar Fde A. A cluster of polyneuropathy and Wernicke-Korsakoff syndrome in a bariatric unit. *Obes Surg* 2002; **12**: 328–334.