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IMAGES IN CLINICAL NEUROLOGY

Wernicke encephalopathy after intragastric balloon therapy

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A 32-year-old female patient with a history of diabetes and hypothyroidism was admitted with the complaints of nausea, vomiting, chest pain, abdominal distention, and reduced urine output. The patient had undergone intragastric balloon therapy (IBT) three months ago. The patient had hypotension, tachypnea, and abdominal tenderness. The patient also had congestive heart failure. Computed tomography images showed pneumomediastinum, subcutaneous emphysema in the neck, periscapular area, and the left axilla, and an intragastric balloon with a maximum diameter of 16 cm (Figures 1, 2). The balloon was endoscopically removed. In the following hours, the patient developed consciousness disturbance and epileptic seizures. Neurological examination revealed horizontal jerky nystagmus and tetraparesis. Deep tendon reflexes could not be elicited. A written informed consent was obtained from the patient.

Brain magnetic resonance imaging (MRI) showed diffusion restriction in the bilateral

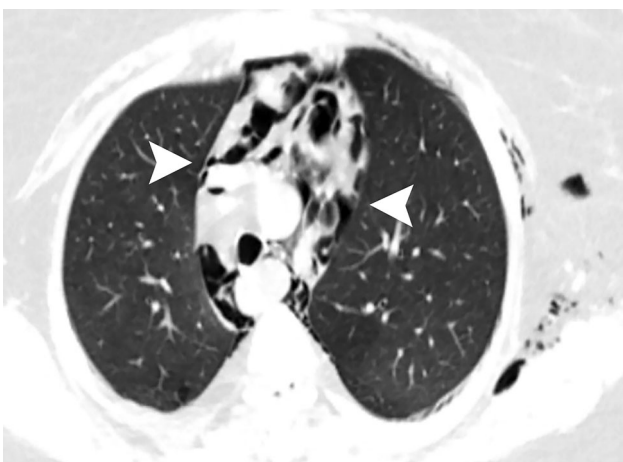

Figure 1. Computed tomography shows pneumomediastinum (arrowheads).

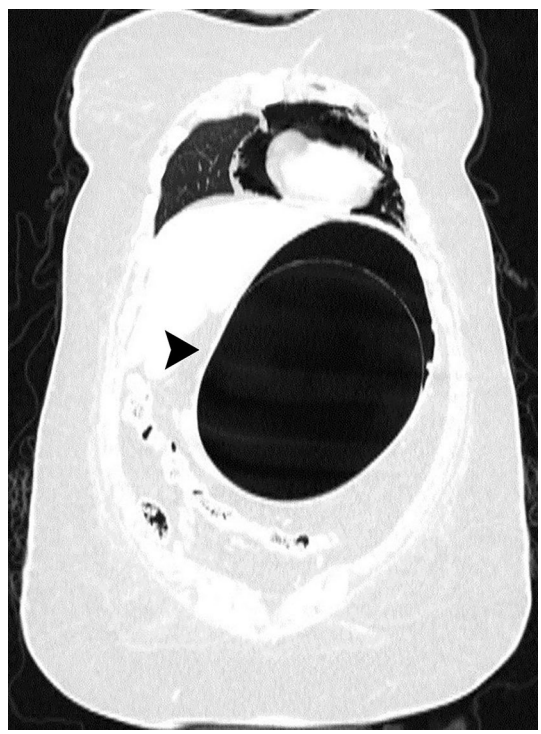

Figure 2. Computed tomography shows intragastric balloon with a maximum diameter of 16 cm (arrowhead).

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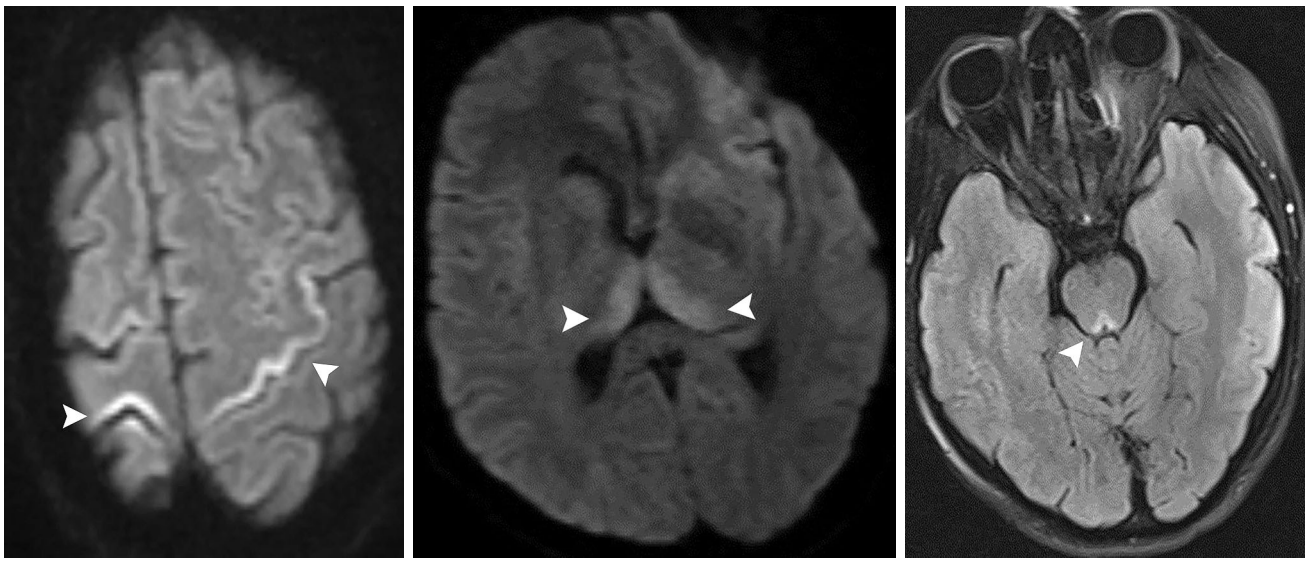

Figure 3. Diffusion-weighted brain magnetic resonance imaging shows diffusion restriction in the bilateral precentral gyri, dorsomedial thalami, and mammillary bodies (arrowheads).

precentral gyri, dorsomedial thalami, mammillary bodies, and periaqueductal gray matter (Figures 3). An electroencephalogram revealed background activity slowing and generalized sharp waves. Electrophysiological examinations showed axonal sensorimotor polyneuropathy. The diagnoses of Wernicke encephalopathy (WE) and dry (polyneuropathy) and wet (congestive heart failure) beriberi due to thiamine deficiency were made, and the patient was treated with intravenous thiamine. After the treatment, the patient's clinical status improved.

Wernicke encephalopathy, characterized by mental status changes, oculomotor abnormalities, and ataxia, is caused by thiamine deficiency.[1] Since the prevalence of obesity has risen during the last decades, bariatric surgery is increasingly being performed, and WE cases associated with these procedures are increasingly being reported.[2] Intragastric balloon therapy is a minimal invasive and temporary method used for weight loss, and WE after IBT is extremely rare.[3] Fittipaldi-Fernandez et al.[3] reported one WE case out of 5,874 patient undergoing IBT.

Cortical involvement characterized by seizures, motor dysfunction, and diffusion restriction surrounding the central sulci on brain MRI is rare in WE.[4,5] This cortical pattern has more commonly been reported in nonalcoholic WE patients.[5]

Data Sharing Statement: The data that support the findings of this study are available from the corresponding author upon reasonable request.

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