

Anorexia nervosa complicated with hiatal hernia and superior mesenteric artery syndrome: A case illustrating the risk of inference observation confusion

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A 41-year-old woman with a 22 year history of anorexia nervosa was referred to a local hospital for nonself-induced vomiting, postprandial regurgitation, and biliary vomitus. Although she had visited four internists over 7 years, each time she had been referred straight away to receive psychiatric care with cursory medical evaluation. On presentation, she expressed a desire to eat and her weight, previously 48 kg at age 19 (Figure 1A), had diminished to 29 kg, and her height had decreased from 158 cm to 144 cm. Initial evaluation using thoracoabdominal X-ray revealed multiple, vertebral compression fractures and profound osteoporosis, presumptively attributable to secondary amenorrhea and malnutrition. To investigate the regurgitation and biliary emesis, endoscopy and upper gastrointestinal contrast studies were attempted but aborted due to severe odynophagia and profound nausea. Transabdominal ultrasound was inconclusive for abdominal pathology. Abdominal magnetic resonance imaging (Figure 1C) revealed; (i) a remarkable shift of the cardia of the stomach above the diaphragm (white arrowheads); (ii) dilatation of the duodenum (black arrowheads) due to stricture in the third portion of the duodenum (blue arrow) that appeared to have developed as a consequence of wedging between the superior mesenteric artery (SMA, white arrows) and the aorta (black arrows)—findings that indicated co-occurrence of sliding hiatal hernia and SMA syndrome; (iii) the liver with right lobular atrophy and left lobular hypertrophy (yellow arrowheads); (iv) the pancreas thinner than 1 cm (red arrowheads); and (v) deformed thoracic and lumbar vertebrae representing compression fractures due to profound osteoporosis (yellow arrows)—findings suggesting multiple organ dysfunction secondary to long-standing severe malnutrition.

The patient was hospitalized for total parenteral nutrition with meticulous precautions to avoid refeeding syndrome. Four years later, she has maintained her weight at around 40 kg (Figure 1B) by eating in the vorlage position (leaning forward with heels flat) and by avoiding the supine position postprandially.

Concurrent hiatal hernia and SMA syndrome in individuals with prolonged and severe anorexia nervosa is potentially life-threatening. SMA syndrome alone has a mortality rate of approximately 30%-40%.¹ Habitual self-induced vomiting and weakness of the diaphragm due to extreme weight loss likely caused hiatal hernia in this patient. SMA syndrome was caused by external compression of the third portion of the duodenum, downstream of the major duodenal papilla, an area squeezed at the marked narrow angle between the abdominal aorta and the overlying SMA. Normally, mesenteric fat tissue functions as a cushion for the duodenum. Reduction of the fat tissue from emaciation exacerbates duodenal compression that leads to obstruction, bilious emesis, malnutrition, and potentially death.¹

Anorexia nervosa has the highest mortality rate among all mental disorders, and 5% to 20% of patients die of associated comorbidity such as suicide, starvation, and drug addiction.² Prevention of suicide through close monitoring for complications of depression is the first order of business for anorexia patients. However, clinicians must also consider other possible life-threatening medical comorbidities.

A significant delay in her diagnosis occurred due to “inference observation confusion” known more colloquially as “jumping to conclusion bias” when the evaluating clinicians assumed that the patient’s

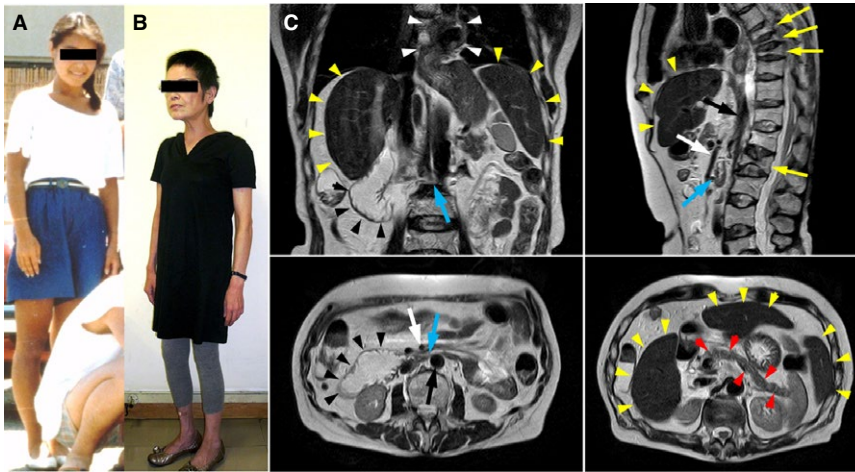


FIGURE 1 Photographs of the patient at ages (A) 19 and (B) 44. (C) Coronal, transverse, and mid-sagittal sections of T2-weighted abdominal magnetic resonance images

physical complaints were due to a psychotic disorder based on her history of a psychiatric illness. This case reinforces the basic principles of taking a good history, listening carefully to the patient's complaints, and avoiding premature closure of the differential diagnosis. Astute clinicians must remain cognizant of the risks of their own biases clouding their ability to carefully listen to the patient, and evaluate all patients, regardless of psychiatric history, based on the patient's presentation.

CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

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