

## Clinical Image

### Functional Aerophagia in a Pediatric Patient with Abdominal Distension

#### Functional Aerophagia Radiologic Image

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A 4-year-old girl was brought to our pediatric emergency department with abdominal distention. She had no complaints of constipation, vomiting, loss of appetite, or abdominal pain. Physical examination showed that her abdomen was very distended, and bowel sounds were normoactive. Palpation revealed no tenderness, defense, muscular rigidity, hepatosplenomegaly, or mass. With percussion, tympanic sound was detected in the whole abdomen. Spontaneous gas discharge occurred during rectal examination. No additional pathology or signs of systemic infection were detected, and laboratory parameters were normal. No pathological markers were found in the stool specimen. Weight and height measurements were within the 25<sup>th</sup> and 50<sup>th</sup> percentiles. A plain abdominal X-ray showed that the patient had an esophageal air sign (EAS), a very large stomach, and a generalized gas image in the intestines (Figure 1). There was no evidence of bowel obstruction. A nasogastric catheter evacuated approximately 300 cc of air. As a result, the abdominal distension decreased significantly. Further investigation of the patient's anamnesis revealed that her complaints started about 3 months ago, when her brother was born. This situation indicated emotional stress factor. There was no abdominal distension when she woke up in the morning; rather, it worsened throughout the evening and her swallowing sounds changed. According to her parents, she burped heavily during the day, passed gas in her sleep, and had a bad smell in her room. The patient was diagnosed with functional aerophagia and referred to the pediatric psychiatry outpatient clinic. Written informed consent obtained from the patient's father.

Aerophagia is a functional gastrointestinal disorder characterized by abdominal distention, belching, and gas accumulation from repeated swallowing. When accompanied by gastrointestinal symptoms such as abdominal pain and decreased appetite, the condition is called pathologic aerophagia (1). It can lead to gastrointestinal perforation. According to the Rome IV criteria, this disorder is included in the classification of childhood and adolescent functional gastrointestinal disorders. The symptoms should be present for at least 2 months and cannot be explained by another medical condition (2). Early recognition of aerophagia is important to avoid unnecessary diagnostic tests and possible complications. A plain X-ray is an effective diagnostic tool for this disorder.

EAS is a result of excessive air swallowing and may occur when the cricopharyngeal sphincter does not close properly. It should not be visible in a normal fully inflated chest radiograph (3). The occurrence of aerophagia is reported mostly in adults and children with intellectual disabilities. It has been associated with emotional stress in otherwise healthy children, like our patient (1). A literature review showed a case of colon perforation from aerophagia. Nasogastric decompression was applied (4), but no standard treatment was defined because of the small number of reported cases. Patients should be aware of swallowing air and avoiding excessive intake of carbonated beverages. Also, behavioral therapies (1), with or without medications such as clonazepam, can be used to reduce psychological stress (5).

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**FIG. 1.** Plain abdominal X-ray shows EAS and distended stomach - indicated aerophagia