

A Case of Ingression of Hiatal Hernia by the Distal Gastric Portion

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Abstract A 95-year-old female resident of a care facility with mild dementia had recently become unable to consume solid food and was primarily maintained on a liquid diet. After lunch, she suddenly became aphonic, reportedly due to abdominal discomfort. During transport to the hospital by ambulance, she vomited once. Upon arrival, she appeared visibly distressed, although her vital signs remained stable. Prior to undergoing a computed tomography (CT) scan, she exhibited persistent nausea. CT imaging of the torso revealed a hiatal hernia involving the stomach, with impaction of the distal portion. Notably, the patient's pain resolved spontaneously following the CT examination. She was admitted for observation and subsequently discharged back to the care facility. Despite a thorough literature search, no similar cases were identified. We hypothesize that this phenomenon may have been caused by herniation of the posterior half of the stomach, potentially due to gastric elongation (gastroptosis) or increased mobility of the duodenum, rendering the posterior gastric wall more susceptible to displacement. This rare case may represent an unreported variant in the spectrum of sliding hiatal hernias.

Keywords: *hiatus hernia, distal stomach, aging*

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1. Introduction

Hiatal hernias are defined as a condition in which the contents of the abdomen shift into the chest through the diaphragm. The classification of these conditions is typically based on the severity of the symptoms experienced by the patient [1,2]. Type 1, or "sliding" hernias, account for 95% of cases and involve the gastroesophageal (GE) junction moving into the thoracic cavity, often causing acid reflux. This condition is often treated with lifestyle changes or medication [3]. Types 2 and 3 are paraesophageal hernias, in which the stomach's fundus herniates adjacent to the esophagus. In the case of Type 2, the GE junction maintains a normal position, while in Type 3, it also herniates. These cases account for less than 5% of all cases and may result in reflux and swallowing difficulties. Surgery is indicated in cases where conservative treatments prove ineffective. Type 4 is the least common and most severe type, involving herniation of the GE junction and other abdominal organs. The condition has the potential to manifest with symptoms including, but not limited to: chest pain, shortness of breath, and constipation. Early detection is imperative in order to mitigate the risk of potential complications. In this report, we present a case of hiatal hernia ingression involving the distal gastric portion.

2. Case Report

A 95-year-old female resident of a care facility with mild dementia but mostly independent in activities of daily living had recently become unable to consume food, and her diet consisted mainly of liquid food. Following lunch, the patient abruptly lost her ability to speak due to abdominal discomfort. Consequently, her caregiver requested an ambulance. During the ambulance ride to the hospital, the patient vomited once. The patient's medical history includes a past diagnosis of facial nerve palsy. The patient exhibited the following symptoms at the time of visit: a Glasgow Coma Scale score of E3V2M5, blood pressure of 166/81 mmHg, pulse rate of 70 beats per minute, oxygen saturation level of 98% while breathing room air, respiratory rate of 18 breaths per minute, and absence of fever. The woman exhibited audible signs of discomfort, including moaning and groaning. Tenderness and muscular defense were observed in the abdomen. Prior to undergoing a computed tomographic scan (CT), the patient exhibited symptoms consistent with nausea. A thorough evaluation of the head CT revealed no discernible new hemorrhages. The trunk CT exhibited a hiatal hernia of the stomach, accompanied by a gastric distal portion impaction, as depicted in Figure 1. The presence of gastric juice accumulation within the stomach

was observed. The results of the blood count and biochemical analysis revealed no significant abnormalities. Following the CT, the patient's pain spontaneously abated, and she regained her clear consciousness and was able to communicate verbally. The patient was diagnosed with a chronic obstruction, and surgeons determined that radical surgery should not be performed due to the patient's advanced age and subsequent improvement in symptoms. The patient continued to consume water and was transitioned to a soft diet on the second day of the illness, which was subsequently completed. A subsequent CT scan was conducted, but no alterations in the underlying anatomical abnormalities were observed. The patient was discharged to a facility on the third day.

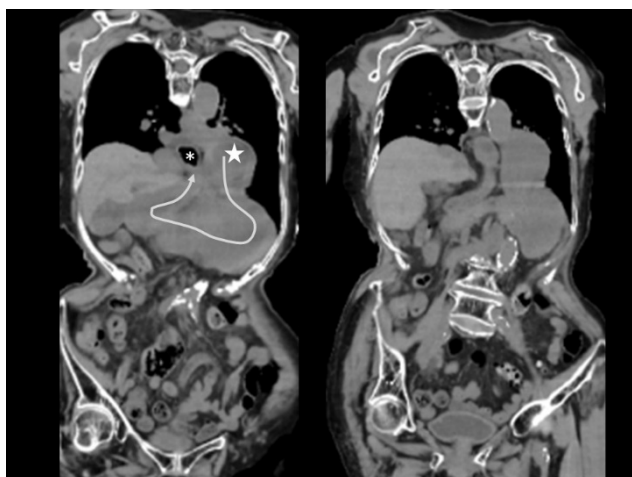


Figure 1. Trunk computed tomographic image (CT) on arrival

The coronal CT demonstrated that a hiatal hernia of the stomach (star), accompanied by a gastric distal portion impaction (asterisk).

3. Discussion

In this case, a type 1 smooth prolapse hernia was followed by a herniation of the vestibule of the stomach back into the esophageal hiatus. Despite conducting a thorough search, no such case was identified. The hypothesis that this phenomenon occurred was attributed to the herniation of the posterior half of the stomach,

resulting from the extension of its total length, a condition known as gastropexis, or the mobility of the duodenum, which renders the posterior half of the stomach more mobile [4,5]. It was hypothesized that the initial presentation of this case was characterized by complete obstructive symptoms. However, vomiting appeared to reduce the gastric contents and decompress the intragastric pressure, which might have led to an improvement in clinical symptoms. Or the shift in abdominal pressure resulting from symptoms of nausea experienced prior to undergoing a CT scan may have contributed to the resolution of complete anatomical obstruction. This distinctive instance contributes an additional etiology to the compendium of documented etiologies of sliding hernia.

4. Conclusion

We hereby present an exceedingly rare case of ingression of a hiatal hernia by the distal gastric portion.

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