Scientific Research Publishing

Open Journal of Radiology, 2025, 15(3), 91-94
https://www.scirp.org/journal/ojrad
ISSN Online: 2164-3032
ISSN Print: 2164-3024

Mutual Door Blockage Sign [4] (Khedewy Sign): A Novel CT Imaging Indicator of Type III Hiatal Hernia

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How to cite this paper: Ahmed, A.K. (2025) Mutual Door Blockage Sign [4] (Khedewy Sign): A Novel CT Imaging Indicator of Type III Hiatal Hernia. *Open Journal of Radiology*, **15**, 91-94.
https://doi.org/10.4236/ojrad.2025.153009

Received: July 29, 2025
Accepted: August 30, 2025
Published: September 2, 2025

Abstract

Type III hiatal hernias, or mixed paraesophageal hernias, involve both the gastroesophageal junction (GEJ) and part of the stomach herniating through the esophageal hiatus. We present a case of a 68-year-old male with symptomatic hiatal hernia in which coronal CT imaging revealed a unique anatomical configuration. The stomach and esophagus appear to converge within the hiatus in a manner resembling two individuals blocking each other at a doorway. We propose the term Mutual Door Blockage Sign [4]? (Khedewy Sign) to describe this configuration. This sign may assist radiologists and clinicians in identifying and differentiating complex hiatal hernias with greater clarity and diagnostic confidence.

Keywords

Hiatal Hernia, Type III Hernia, CT Imaging, Khedewy Sign, Mutual Door Blockage, Radiology Case Study

1. Introduction

Hiatal hernias represent a common gastrointestinal pathology characterized by herniation of abdominal contents through the esophageal hiatus of the diaphragm. These hernias are classified into four types, with Type III, also known as the mixed type, involving both a sliding component (gastroesophageal junction) and a paraesophageal component (stomach or other abdominal organs). While many hiatal hernias are asymptomatic or minimally symptomatic, larger hernias, particularly mixed types, may present with symptoms including chest discomfort, dysphagia, regurgitation, and reflux. The prevalence increases with age and is often identified incidentally on [1] thoracoabdominal imaging.

Early and accurate identification of these hernias using imaging modalities, especially CT, is essential for appropriate management and surgical planning. Traditional imaging findings [2] [3] of Type III hernias include the intrathoracic position of the stomach and the GEJ above the diaphragmatic hiatus. In this study, we introduce a novel and memorable imaging sign the Mutual Door Blockage Sign [4] (Khedewy Sign) which serves as a descriptive visual aid to help radiologists and clinicians identify and differentiate Type III hiatal hernias in daily practice.

2. Imaging Findings

Coronal CT imaging of the patient revealed a large portion of the gastric fundus herniating into the thoracic cavity. The gastroesophageal junction was also positioned above the diaphragmatic hiatus, confirming the diagnosis of a mixed (Type III) hiatal hernia. Of particular interest was the appearance of the gastric and esophageal walls pressing against each other at the level of the hiatus, producing a pattern reminiscent of two individuals blocking each others way at a doorway. This configuration was consistent across multiple slices and clearly visible in coronal reconstruction, emphasizing the utility of multiplanar evaluation in hiatal hernia cases (**Figure 1**).

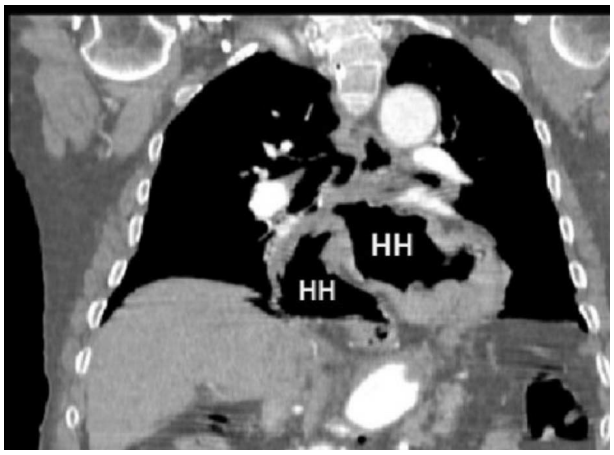
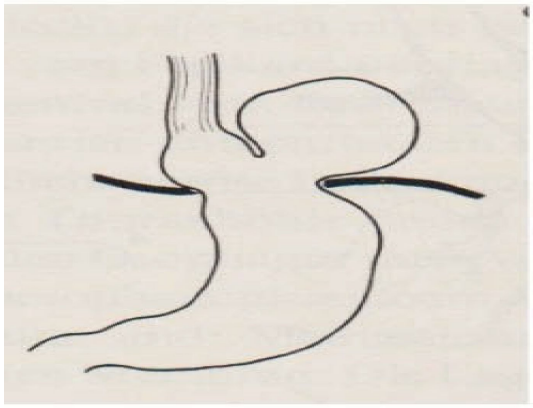


Figure 1. Coronal CT showing the Mutual Door Blockage Sign (Khedewy Sign) in a Type III hiatal hernia.

3. Case Series Overview

Following the identification of the initial index case, we retrospectively reviewed 12 additional CT studies from the past 2 years showing confirmed Type III hiatal hernias. Out of these, 9 cases demonstrated similar opposing appearance of gastric and esophageal walls within the hiatus. In each case, the sign appeared more pronounced in coronal reconstructions, emphasizing the importance of multiplanar evaluation [1] in thoracoabdominal imaging. Patient demographics ranged from 52 to 81 years of age, and clinical symptoms were consistent with reflux, chest pain, or incidental findings. All cases were confirmed via endoscopy or surgical exploration [4] (**Figure 2**).



Type III
Mixed

Figure 2. Additional case example demonstrating the sign in coronal view.

4. Clinical Significance

The Mutual Door Blockage Sign [4] may offer a visually intuitive method to identify complex hiatal hernias on imaging studies. This could be particularly beneficial for junior radiologists or non-radiologist clinicians reviewing CT images. Its application may also aid in pre-operative planning [2] by helping identify patients at higher risk of volvulus or incarceration due to the compacted anatomical configuration. Furthermore, the sign may serve as an educational tool and prompt radiology trainees to more closely evaluate the relationship between the GEJ and stomach in hernia cases.

5. Limitations and Future Directions

The primary limitation of this study is the small number of cases and the retrospective nature of the case review. While the sign was visually consistent in the majority of patients reviewed, further prospective studies are necessary to validate its sensitivity [5] and specificity. Additionally, anatomical variation and scanner positioning may influence the visibility of the sign. Future research may also explore correlation with surgical findings, clinical symptom severity, and long-term patient outcomes.

6. Conclusion

We propose the Mutual Door Blockage Sign [4] (Khedewy Sign) as a novel, descriptive CT imaging finding in Type III hiatal hernias. Its unique and memorable appearance may aid in more consistent identification of this complex anatomical pathology. Further validation through larger studies is recommended to determine its diagnostic value and potential role in clinical practice.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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