Type IV Hiatal Hernia Causing Severe Restrictive Pulmonary Function: A Case Report

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Introduction

Hiatal hernias are classified based on location of the GE junction and by severity of abdominal contents protruding into the thoracic cavity. A type IV hiatal hernia indicates a large defect in which both the stomach and another visceral organ has herniated into the mediastinum. These are rare, accounting for <5% of all hiatal hernias, however there is potential for them to cause severe cardiopulmonary compromise.

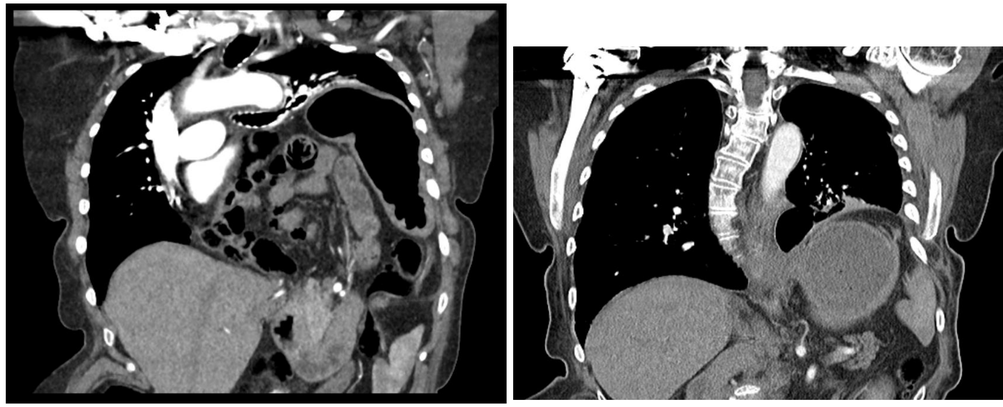
Case Description

Our patient is a 76-year-old female with a history of scoliosis, HTN, HLD, and hypothyroidism who presented to her PCP with several months of worsening shortness of breath. She was referred to Pulmonology and Cardiology and was ultimately found to have a large type IV hiatal hernia defect that contained the entirety of her stomach as well as portions of her colon, pancreas, and small intestine. She underwent PFTs which showed severe restrictive disease. She was evaluated by thoracic surgery and ultimately scheduled for a hiatal hernia repair via left thoracotomy.

At the time of operation, the pleural cavity was accessed via thoracotomy at the 8th intercostal space. The broadly splayed out inferior pulmonary ligament was taken down in addition to adhesions between the hernia sac, LLL and lingula. The right and left crus were also dissected free and then reapproximated using interrupted anterior and posterior sutures around a 48F bougie, ensuring 2cm of intraabdominal esophagus. Hemoclips were placed at the GE junction for postoperative identification. The chest was then filled with saline and an air leak was identified at the LLL where it had been freed from the inferior pulmonary ligament. This area was oversewn and Tisseal was applied. At the conclusion of the case, an end expiratory air leak was noted from the two 28F chest tubes placed in the left pleural cavity and posterior mediastinum. The patient was subsequently admitted to the ICU and had a fairly uneventful hospital course. Chest tubes were later removed and the patient was discharged to home on a soft diet. At one month follow up, patient had complete resolution of SOB and reflux symptoms.

Discussion

This case highlights the seemingly innocuous clinical manifestations of a large type IV hiatal hernia and brings to our attention the importance of further investigation in these scenarios. Patients can have debilitating respiratory compromise that can be undertreated without surgical management. Although operative intervention is not without risk, often the benefits of pursuing surgery can greatly improve quality of life.



Left: Large left-sided diaphragmatic hernia with significant compression of the left lung and displacement of the mediastinum to the right. Right: Post-operative reduction of intra-abdominal contents.

References

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