



# Bowel in the Chest: Clinical Manifestations of a Type IV Hiatal Hernia



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## BACKGROUND

- Hiatal hernias (HH) result from protrusion of intraabdominal organs into the thoracic cavity through the esophageal hiatus and commonly associated with gastroesophageal reflux disease (GERD).
- Type IV HH are rare, defined by presence of the stomach and/or other abdominal organs into the thoracic cavity
- We report a patient with Type IV HH presenting with atypical pulmonary symptoms caused by mass effect that resolved after surgical operation

## CASE DESCRIPTION

- 55-year-old female with past medical history of cerebral palsy and GERD presented with vomiting, productive cough with yellow sputum, and hoarseness for 3 days
- Review of systems revealed fever and shortness of breath. Physical examination revealed respiratory rate of 25 with oxygen saturation of 89%, end expiratory wheezing in the left lower lobes and absent sounds on the right. CBC showed a WBC of 12,500 K/mm<sup>3</sup>
- Chest and abdominal x-ray indicated possible aspiration and large stool burden. She was admitted for aspiration pneumonitis with ileus and received antibiotics, anti-emetics, and laxative medications
- CT chest and abdomen (Figure 1) revealed a large HH with moderate colonic stool burden exerting mass effect over cardio-mediastinal structures
- Upper endoscopy and barium enema showed a large Type IV paraesophageal HH containing a long segment of transverse colon with majority of the stomach extending into the posterior right thoracic cavity with mass effect on narrowed colonic loops

## RESULTS

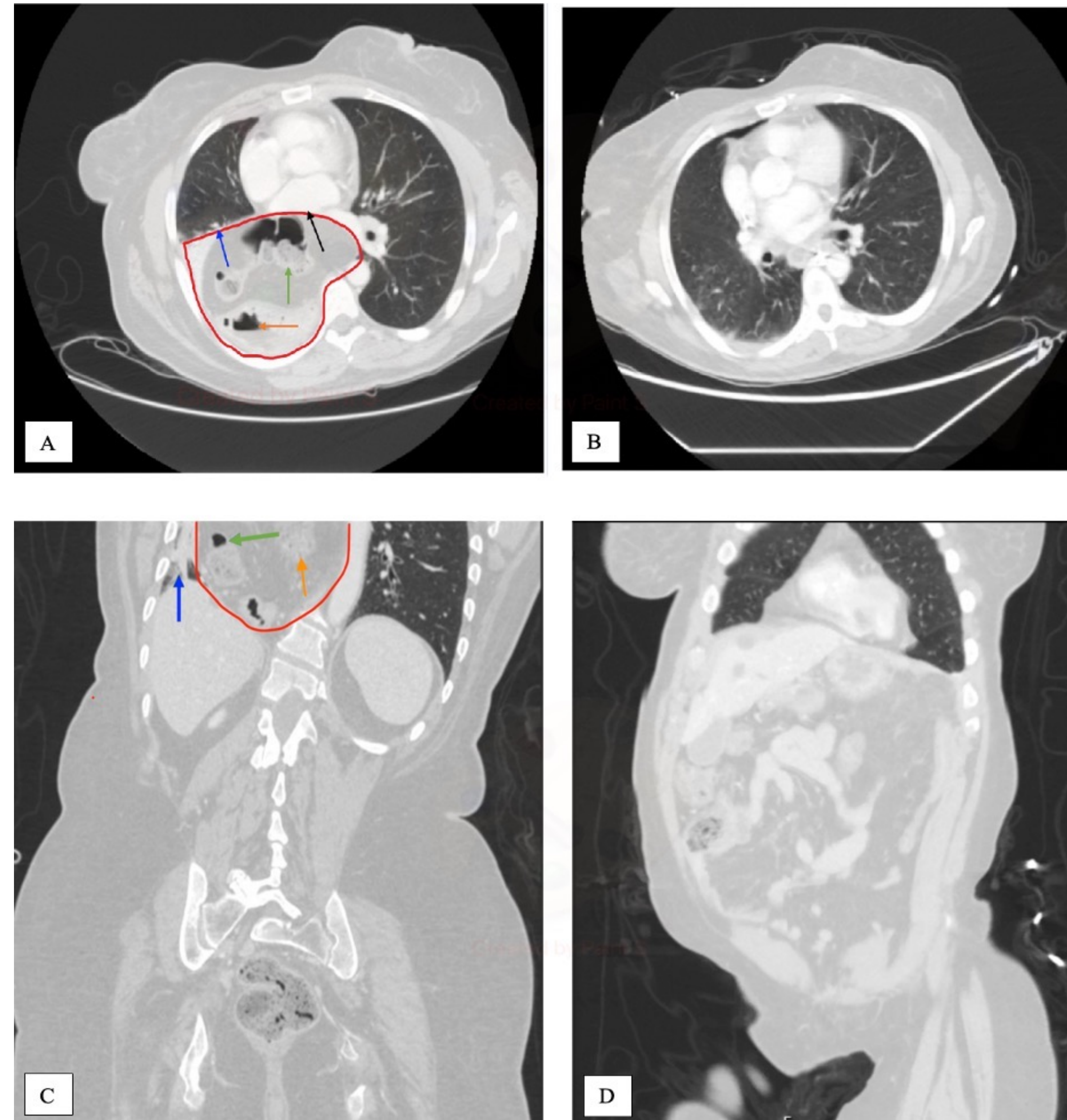


Fig 1: CT Abdomen and Pelvis of Type IV Hiatal Hernia (Red) Compressing Mediastinal Structures

(Stomach= orange, Colon= green, Lung = blue, Heart = black) [Pre-Operative Axial View (A) with Post-Operative Axial View (B) and Pre-Operative Coronal View (C) with Post-Operative Coronal View (D)]

## CASE DESCRIPTION

- She underwent robotic assisted laparoscopic repair with cruroplasty with mesh, esophagopexy and gastropexy. Intra-operatively, colon and stomach were compressing her cardio-mediastinal structures
- Postoperative Upper GI study showed successful repair without evidence of leak
- CT abdomen showed resolution of HH and small right sided pleural effusions post-operatively
- She tolerated a full diet by POD 3 and discharged on POD 4
- Postoperative course was complicated by readmission with chylous leak that was controlled by lymphangiographic embolization

## CONCLUSIONS

- This patient presented with pulmonary symptoms leading to a workup for respiratory etiologies. Not uncommonly, paraesophageal HH lead to aspiration and pneumonia, in addition to reflux
- Large Type IV HH are unique as they predispose additional organs to strangulation and complications as demonstrated by this case
- Heightened awareness for consideration of HHs may promote timely detection and treatment

## REFERENCES

- Patel, S., Yarra, S., Owji, S., Benavidez, J. E., & Nguyen, Q. D. (2020). Minding the Gap: Clinical Manifestations of a Rare Type IV Hiatal Hernia. *Cureus*, 12(7), e9275.