Chronic feculent cough following diaphragmatic hernia repair: Colo-bronchial fistula

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Background:

- Colobronchial fistula (CBF) is an abnormal communication between colon and the bronchial tree
- CBF is extremely rare
- Commonly associated with inflammatory or neoplastic diseases of the colon or prior trauma[1,2]
- Presentation can be subtle, leading to diagnostic delay

Case report:

- 44-year-old male with chronic productive cough for two years, worse on lying down
- Feculent cough for 4 months
- Significant weight loss (15 kgs), anorexia. No gastrointestinal symptoms
- H/o laparoscopic converted to open mesh repair of left diaphragmatic hernia in 2020 at another hospital
- Post operatively complicated by burst abdomen, healed by secondary intention→ scarred abdomen

Imaging:

- CECT thorax+ Abdomen:
  - Fistula extending from sigmoid colon to a subsegmental bronchus of left lower lobe through a diaphragmatic defect
  - Abscess cavity in the left lower lobe (Fig. 1)
- Pre operative bronchoscopy: feculent secretions in left lower lobe bronchus, no fistulous opening localised

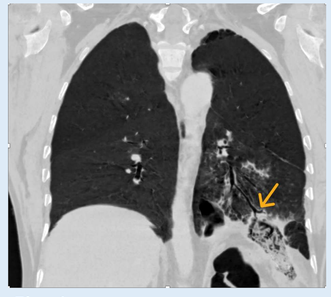

Fig. 1

Management:

- Combined abdominal and thoracic approach → Midline Laparotomy and left thoracotomy
- ***Operative findings:***
  - Splenic flexure herniating through diaphragm into the thoracic cavity (Fig.2)
  - Infected mesh within lung abscess cavity (Fig. 3 and 4)
  - Dense adhesions between colon, diaphragm, and lung
- ***Procedure:***
- *Abdominal phase:*
  - En bloc resection of the involved colon segment and the fistulous tract
  - Explantation of infected mesh through the diaphragmatic defect
  - Side to side colo-colic anastomosis
  - Primary repair of diaphragmatic defect
- *Thoracic phase:*
  - Left thoracotomy with sleeve resection of the affected left lung lower lobe
- The patient is asymptomatic at six- month follow up

Fig. 2

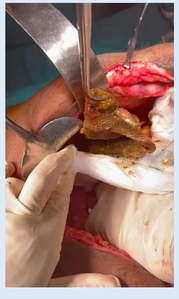

Fig. 3

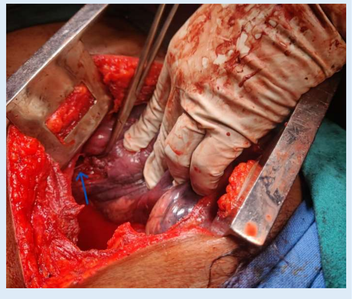

Fig. 4

Conclusion:

- CBF is a rare, potentially life- threatening complication of diaphragmatic hernia repair
- Early recognition and complete surgical excision is definitive

Learning points:

- Feculent cough is pathognomonic for CBF
- CT with oral & IV contrast is diagnostic
- Definitive management → surgery

References:

1. Alameel T, Maclean DA, Macdougall R. Colobronchial fistula presenting with persistent pneumonia in a patient with Crohn's disease: a case report. Cases J. 2009 Nov 30;2:9114. doi: 10.1186/1757-1626-2-9114. PMID: 20062691; PMCID: PMC2803911.
2. Truong VAN, Fargo R. Colobronchial fistula: An unusual case of feculent halitosis and recurrent pneumonia. Clinical Pulmonary Medicine. 2015 Jan 3;22(1):49-51. doi: 10.1097/CPM.0000000000000073