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CASE REPORT

# Post tubercular gastropulmonary fistula: A rare complication



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## KEYWORDS

Gastropulmonary fistula;  
Thoracotomy;  
Subphrenic abscess;  
Pulmonary resection;  
Complication

**Abstract** Gastropulmonary fistulas are themselves a very rare clinical entity and very less has been written about them in literature. Most of the cases listed in literature till now show that most of the gastropleural fistulas have been reported after intrathoracic gastric perforation in hiatal hernia, traumatic diaphragmatic hernia with later gastric perforation, perforated malignant gastric ulcer at fundus, extension of subphrenic abscess with gastric perforation, pulmonary resection and gastric bypass operations and only a single case has been documented till now regarding post intercostal chest tube drainage gastropulmonary fistula in tubercular patient.

Here we present a first of its kind case where a middle aged female developed gastropulmonary fistula on the left side after multiple pleural aspirations for tubercular pleural effusion. The patient was operated and left lower lobectomy was done with the resection of involved part of stomach and fistulous tract from the left posterolateral thoracotomy.

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## Introduction

Gastropulmonary fistula is a communication between the stomach and lung. As a complication of it aspiration pneumonia develops and evolves into lung abscess formation with the attendant risk of life-threatening massive hemoptysis, bronchiectasis and recurrent local infection, pyopneumothorax and empyema.

This complication is difficult to manage and requires multiple radiological, endoscopic, and surgical procedures.

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## Case report

We present a case of a 32 year old female who was referred to our institute with chief complaints of foul smell in breath, coughing out food particles after lying in right lateral position after having meals and progressive cough for last 12 months with intermittent fever. To address these complaints the patient used to lie in a propped up position. There was no history of trauma to chest, no history of any gastric, esophageal, pulmonary surgery in the past, no history of any radiation to chest and abdomen for malignancy or no history of chemotherapy for acid peptic disease.

The patient had been diagnosed to have pulmonary tuberculosis 2 years back when she had developed tubercular pleural effusion on the left side and had undergone multiple needle aspirations. She took antitubercular treatment for 9 months

and after that she was declared cured. Patient was diagnosed to have infertility due to tubal strictures for which she underwent invitro fertilization (IVF), and was on corticosteroid supplementation before she delivered live fullterm baby by cesarean operation.

On general examination the patient was hemodynamically stable and having very foul smell in breath. Air entry was slightly reduced on the lower part of the left lung. Rest of the physical examination was normal.

In blood investigation the only abnormality was raised ESR (32 mm/h) and raised lymphocyte count in Differential leukocyte count ( $P_{38}L_{52}M_7E_3B_0$ ). Rest all blood investigations like liver function tests, and renal function tests are within normal range. Patient was negative for hepatitis B and HIV.

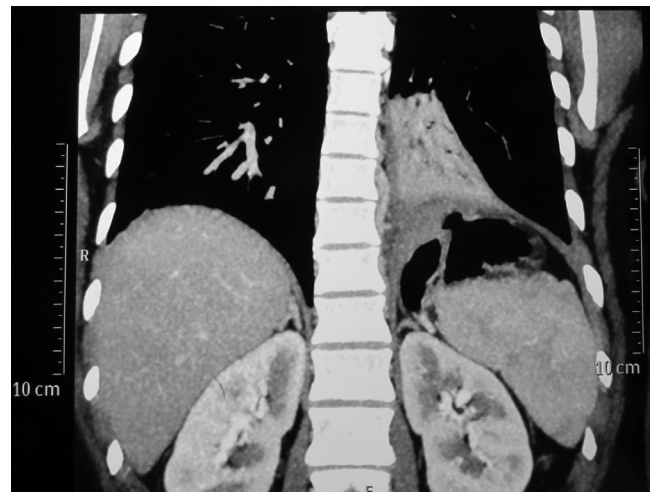
Upper GI endoscopy showed a hole with puckering of surrounding tissue in fundus of stomach suggestive of fistula. Chest X-ray was suggestive of consolidation of the left lower lobe (Fig. 1).

Contrast enhanced CT scan of abdomen and chest (Figs. 2–5) showed a rent of size 6 mm in fundus of stomach through which oral contrast agent reached the lower lobe of the left lung suggesting fistulous connection between fundus of stomach and the lower lobe of the left lung. Part of the lower lobe of the left lung is necrotic and fistulous tract of area about  $29 \times 17$  mm was seen in the lower lobe of the left lung. Parenchyma of the lower lobe of the left lung was filled with contrast agent and contrast reached the segmental bronchus. ECG and echocardiography were normal.

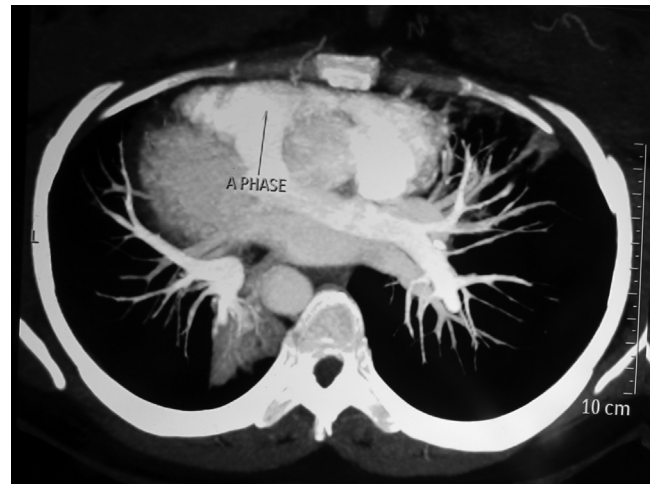
On the basis of the above investigations the patient was planned for surgical intervention and informed consent was taken. The patient was operated and left lower lobectomy was done through the left posterolateral thoracotomy after precisely identifying the fistulous tract between stomach and the left lung through the diaphragm. There were adhesions in pleural cavity for which adhesiolysis and hemostasis were done. Fistulous tract was explored from chest incision and through an incision in diaphragm the involved part of stomach with fistula was resected followed by closure of stomach in a single layer. Diaphragm was repaired with omentum interposed between the stomach and diaphragm. The bronchial



**Figure 1** Chest X-ray PA view showing consolidation of the lower lobe of the left lung.



**Figure 2** Contrast enhanced CT scan (coronal section) showing gastropulmonary fistula and consolidation of the lower lobe of the left lung.



**Figure 3** Contrast enhanced CT scan of thorax (axial view) showing pulmonary artery and veins.

stump was secured and reinforced with sutures so that there was no active bleeding and airleak. Two chest tubes were placed in chest cavity and thoracotomy was closed in 3 layers. Resected lobe of lung with surrounding lymphnodes and part of stomach were sent for biopsy.

Patient was extubated in the operating room and the post-operative period was uneventful. Tubes were removed on the 3rd and 5th postoperative days and patient was put on liquid meals on the 3rd postoperative day. Patient was discharged on the 7th postoperative day and stitches were removed on the first follow up visit on the 12th postoperative day. After 6 months of follow up,

biopsy report of part of stomach revealed features of chronic active gastritis with increased lymphocyte infiltration of lamina propria with lymphoid follicle formation.

Biopsy report of resected lobe of left lung showed dilated bronchi lined by hyperplastic respiratory epithelium with diffuse infiltration of lymphocytes, alveoli were congested and

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