Bronchoperitoneal Fistula Secondary to Right Lower Lobe Pneumonia

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Introduction

Bronchoperitoneal fistulae are rare with seven case reports in literature. Most of the cases reported were due to erosion of diaphragm and lung parenchyma by subdiaphragmatic infection. In this case report, we report a case of bronchoperitoneal fistula secondary to right lower lobe Klebsiella pneumoniae, managed conservatively by percutaneous drainage (PCD) and antibiotics. The knowledge of this entity is important in diagnosis of fistula as fistulous connection can be overlooked in the imaging and can lead to misdiagnosis of hollow viscus perforation and mismanagement.

Case History

A 25-year-old male patient presented with abdominal pain in the epigastric region, abdominal distention, and fever for the last 1 week. Clinical suspicion of duodenal perforation was raised and radiograph of chest was requested. Initial chest radiograph (► Fig. 1) showed consolidation in the right mid and lower lung zones with air in right subdiaphragmatic region. Patient underwent a contrast-enhanced computed tomography (CECT) of the chest and abdomen for the evaluation of pneumoperitoneum. CECT (► Figs. 2 and 3) showed consolidation in the right lower lobe with bulging fissures, centrilobular nodules with tree in bud appearance in right upper, mid, lower lobe and left lower lobe. There was a small thin-walled cavity in the right lower lung lobe communicating with a loculated air pocket in the right subphrenic space through a right hemidiaphragmatic defect. Knowledge of this entity is important as fistula can be overlooked and can lead to mismanagement.

Key Messages

Bronchoperitoneal fistula is rare entity that can be overlooked in imaging and can lead to misinterpretation and mismanagement as hollow viscus perforation.
CT guidance. Follow-up radiographs (Fig. 4) showed significant reduction in consolidation and resolution of pneumoperitoneum. Patient was discharged without any complication.

**Discussion**

Bronchoperitoneal fistulae are rare. There are very few case reports of bronchoperitoneal fistula in the literature. Bronchoperitoneal fistulae occur due to erosion of the diaphragm, pleura and lung parenchyma and are commonly associated with retained drainage tube, lung abscess, acute respiratory distress syndrome, subphrenic collection due to cholecystectomy, duodenal perforation, and synechotomy in patients on ventilation. Most commonly bronchoperitoneal fistulae are seen due to spread of infection from caudal to cranial direction. There is only one case report mentioning the bronchoperitoneal fistula due to primary lung abscess.

Management of bronchoperitoneal fistula is not clear. Various management protocols are described that include surgical closure of diaphragmatic defect, high frequency oscillatory ventilation, and conservative management.

To our knowledge, this is the first case report of a bronchoperitoneal fistula secondary to cavitating pneumonia, which was managed conservatively with PCD and antibiotics.
The knowledge of this entity is important in diagnosis of fistula as fistulous connection can be overlooked in the imaging and can lead to misdiagnosis of hollow viscus perforation and mismanagement.

Conflict of Interest
None declared.

Acknowledgment
Nil.

References