Endoscopic Closure of Bronchopleural Fistula using Glue Therapy: A Case Report

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Abstract

The occurrence of a bronchopleural fistula (BPF) continues to represent a challenging management problem, and is associated with high morbidity and mortality. Bronchoscopic closure of BPF with instillation of n-butyl-cyanoacrylate glue is an effective, economical, minimally invasive and safe technique for managing BPFs. We present a case that was successfully treated with this method.

Keywords: Bronchopleural fistula; Fibreoptic bronchoscopy; n-butyl-cyanoacrylate

Introduction

Bronchopleural fistula (BPF) is a sinus tract between the bronchus and the pleural space that may result from a necrotizing pneumonia/empyema (anaerobic, pyogenic, tuberculous and fungal), lung neoplasm, blunt and penetrating injuries, or may occur as a complication of procedures, such as lung biopsy, chest tube drainage, thoracocentesis or may complicate radiation therapy. Clinically it is suspected when the air leak through the underwater drainage system persists beyond 24 hours of its initiation [1]. Mortality rates vary between 18% and 67% [2]. The management of BPF is one of the most complex challenges encountered by the chest physicians.

Case Report

A 52 year old male presented to our emergency department with the chief complaint of breathlessness. The patient was a known case of bronchial asthma with allergic bronchopulmonary aspergillosis (ABPA) and bilateral bronchiectasis. The CT scan showed bilateral pneumothorax, more on the left side. Both the lungs were cystically dilated with areas of consolidation. Intercostal chest drainage was placed on both the right side and left side with persistent air leak was noticed on right sided drainage bag. A diagnosis of BPF was made and antibiotics were started. However, his clinical picture did not resolve to humidity and has got antibacterial effect [3]. Hence, endobronchial sealing of BPF with cyanoacrylate glue is a plausible solution and the technique described appears to be reasonably easy as well as effective.

Conclusions

BPF is associated with significant morbidity and mortality. Treatment of active infection and life threatening complications should be instituted as early as possible. In cases of smaller fistulas, a bronchoscopic closure can be attempted with satisfactory result.

References


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