

The Use Of Fiberoptic Bronchoscopy To Localize An Endobronchial Occlusion During Repeat Thoracotomy

M Greenberg, M Hilfiker, S Bickler

Citation

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Abstract

We report the use of a fiberoptic bronchoscope (FB) as an adjunct to finding a bronchial occlusion during thoracotomy of a term newborn baby. After an initial operation, where the patient had persistent left lower lobe collapse, an attempt was made to identify the obstruction by open thoracotomy. During the procedure a fiberoptic bronchoscope was inserted into the left main bronchus up to the level of the obstruction, which was then easily identified and relieved. The use of a FB in this manner appears safe and may facilitate the localization of bronchial obstructions.

INTRODUCTION

Re-operation in the chest in small children can be challenging. Anatomical structure can be difficult to identify because of inflammation and scarring. We describe the use of a fiberoptic bronchoscope to help localize a suture that had caused a persistent bronchial occlusion.

CASE REPORT

A three kilogram male term infant underwent a thoracotomy for excision of a congenital cystic adenomatous malformation of the left thorax. The baby was extubated on the second post-operative day. Follow-up chest radiographs revealed a consolidated left lower lobe that did not re-expand with chest physiotherapy. Flexible bronchoscopy in the Neonatal Intensive Care Unit revealed an obstructed left lower lobe bronchus possibly related to a misplaced suture.

The patient underwent repeat thoracotomy to remove the obstructing suture. To facilitate identifying the site of the bronchial obstruction we passed a 2.2 mm fiberoptic bronchoscope from above down to the level of the obstruction. The bronchoscope was passed through a 3.5 mm endotracheal tube. When the bronchoscope was at the level of obstruction the scope was flexed anteriorly and the operating room lights were dimmed. Using this technique the site of the obstruction and the errant suture were easily identified. Following removal of the suture, the airway patency was observed. The infant was extubated shortly after surgery and experienced no additional problems.

DISCUSSION

Congenital cystic adenomatoid malformation is an uncommon congenital anomaly, which in most cases requires resection via thoracotomy (2). The FB has found many uses in pediatric anesthesia and thoracic surgery including; securing a difficult airway, identification of tracheo-esophageal fistulae, removal of foreign bodies of the airway, and maneuvering an endotracheal tube or bronchial blocker for lung separation and others (1,3,4,5,6,7). The fiberoptic light at the distal end of the scope is quite bright but does not get hot. This feature makes it ideal for use as an illumination device. Similar devices are used to transilluminate and peripheral veins and arteries to assist cannulation in neonates. Using the FB as way to localize lesions could potentially have other uses such as localizing broncho-pleural fistulas, tumors or foreign bodies that are too distal to be removed endobronchially (4,5,6). In summary, using a FB to illuminate areas of interest in the surgical field is a useful and safe. Also it has the potential to improve the success, and shorten the operating time in cases where anatomy is obscured by scarring or infection.

CORRESPONDENCE TO

Mark Greenberg, M.D. UCSD medical Center 200 West Arbor Dr San Diego Ca, 92103 Office 619-543-5297 FAX 619-543-5424 Email mgreenberg@ucsd.edu

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Author Information

Mark Greenberg, MD

Associate Clinical Professor of Anesthesiology and Pediatrics, University of California

Mary Hilfiker, MD, PhD

Associate Clinical Professor of Surgery, University of California

Steven Bickler, MD

Assistant Clinical Professor of Surgery, University of California