ervation of the middle lobe contributed substantially to postoperative respiratory function (Figure 2).

Conversely, preservation of the middle lobe in the absence of the upper and lower lobes may induce torsion. Various factors appear to be associated with lobar torsion, including complete interlobar fissure, absence of adhesions, a narrow middle lobe hilum, and overzealous mobilization of the lobe.⁵ In our case, the middle lobe was fixed by adhesions to the chest wall. However, emphysematous changes in the residual middle lobe may be induced owing to volume mismatch in the middle lobe and thoracic cavity during long-term follow-up.

In conclusion, preserving the middle lobe after resection of both upper and lower lobes offers advantages to residual respiratory function, compared with results from completion pneumonectomy.

References

1. Martini N, Melamed MR. Multiple primary lung cancers. *J Thorac Cardiovascular Surg.* 1975;70:606-12.
2. Deschamps C, Palrolero PC, Trastek VF, Payne WS. Multiple primary lung cancers. *J Thorac Cardiovasc Surg.* 1990;99:769-78.
3. Angeletti CA, Mussi A, Janni A, Lucchi M, Ribechini A, Chella A, et al. Second primary lung cancer and relapse: treatment and follow-up. *Eur J Cardiothorac Surg.* 1995;9:607-11.
4. Guggino G, Doddolia C, Barlesi F, Acri P, Chetaille B, Thomas P, et al. Completion pneumonectomy in cancer patients: experience with 55 cases. *Eur J Cardiothorac Surg.* 2004;25:449-55.
5. Apostolakis E, Koletsis EN, Panagopoulos N, Prokakis C, Dougenis D. Fatal stroke after completion pneumonectomy for torsion of left upper lobe following left lower lobectomy. *J Cardiothorac Surg.* 2006;1:25.

Fibroepithelial polyps: Preoperative diagnosis may avoid thoracotomy

Christopher T. Wartmann, MD,^{a,b} Denise Fernandez, BA,^b and Raja M. Flores, MD,^b Chicago, Ill, and New York, NY

We present the case of a 32-year-old man who presented with an indeterminate obstructing lung lesion thought to be malignant. Thoracotomy revealed the lesion to be a benign fibroepithelial polyp of the bronchus. Had this diagnosis been entertained preoperatively, thoracotomy might have been avoided.

Clinical Summary

This construction worker with a medical history consisting of smoking 1 pack of cigarettes per day for 16 years presented to his general practitioner and was treated for asthma and recurrent pneumonia. A chest radiograph taken at this time showed minimal lower lobe subsegmental atelectatic changes along with a mild degree of perihilar pulmonary vascular congestion. A chest computed tomographic (CT) scan demonstrated a 3-cm mass occluding the left mainstem bronchus, extending into the left upper and lower lobe bronchi (Figure 1). A positron emission CT scan illustrated no

lymphadenopathy, and no fluorodeoxyglucose accumulation was seen in the left endobronchial lesion.

The patient underwent rigid bronchoscopic scanning, where the lesion within the left mainstem bronchus was identified. The lesion side underwent biopsy multiple times; pathology showed benign squamous mucosa with extensive submucosal fibrosis and mild chronic inflammation, with no tumor seen. An attempt was made at coring out this lesion. However, in lieu of radiographic evaluation and demarcation, it was deemed unsafe to remove at this time because of the potential for pulmonary artery invasion; therefore aggressive coring out by means of rigid bronchoscopy could result in significant hemorrhage. Thus thoracotomy was scheduled because of fear of a missed malignant diagnosis caused by the lesion's extensive nature and to avoid potential hemorrhage caused by performing aggressive rigid bronchoscopy. A left posterolateral thoracotomy was performed, and the lung was inspected without any evidence of parenchymal lesions. A bronchotomy was made in the orifice of the left upper lobe bronchus. A significant amount of endobronchial lesion was removed in a piecemeal fashion. This was a lobulated, multiseptated, fleshy lesion slightly larger than a golf ball that continued down into the left upper and lower lobes (Figure 2). On closer inspection, the lesion was adherent to a segmental bronchus down in the left lower lobe by a single stalk; a frozen section was determined to be benign. The

Dr Wartmann

From the Department of Surgery,^a Northwestern University, Chicago, Ill; and the Thoracic Service,^b Department of Surgery, Memorial Sloan Kettering Cancer Center, New York, NY.

Received for publication April 23, 2007; accepted for publication May 30, 2007.

Address for reprints: Raja M. Flores, MD, Thoracic Service, Department of Surgery, Memorial Sloan Kettering Cancer Center, 1275 York Ave, New York, NY 10021 (E-mail: floresr@msskcc.org).

J Thorac Cardiovasc Surg 2007;134:1080-1

0022-5223/\$32.00

Copyright © 2007 by The American Association for Thoracic Surgery
doi:10.1016/j.jtcvs.2007.05.032

Figure 1. Computed tomographic scan demonstrating occlusion of the left mainstem bronchus.

area from which the lesion was excised underwent laser ablation. Final pathologic analysis revealed a benign fibroepithelial polyp. The patient has no complaints and is doing well on 3-year follow-up. Surveillance bronchoscopy and CT scanning demonstrate no evidence of recurrent disease.

Discussion

Inflammatory polyps are solitary benign endobronchial lesions with stromal configurations consisting of well-formed fibrous connective tissue with or without inflammatory cell infiltration.¹ Many believe that these lesions are more inflammatory than truly neoplastic in nature, which is supported by the fact that several reports show that these polyps are seen much less frequently since the introduction of antibiotics.¹ However, the cause of fibroepithelial polyps of the bronchus remains unclear. More importantly, these lesions can be mistaken as either malignant lesions or those with an indeterminate histopathologic diagnosis. For example, in a case report by Dincer and colleagues,² a large obstructing endobronchial polyp was treated with a bilobectomy to alleviate the respiratory symptoms and provide a definitive diagnosis. The authors believe that although these lesions are rare, it is important to educate

Figure 2. Gross photo of the mass.

the thoracic surgeon on the existence of bronchial fibroepithelial polyps to avoid unnecessary thoracotomies or lung resection for a benign lesion that could possibly be treated with endobronchial methods alone. Furthermore, although few reports exist in the modern literature concerning these lesions, there are common presenting symptoms that should be noted. Multiple reports, including this one,¹⁻³ assert that patients who were later found to have benign endobronchial lesions all presented with asthma, pleuritic chest pain, and a history of recurrent pneumonia.

In summary, had the possible diagnosis of benign bronchial fibroepithelial polyps been considered, greater efforts would have been made to identify its stalk and core out the lesion in a piecemeal fashion by means of laser ablation through a rigid bronchoscopy, negating the need for a thoracotomy to both determine the nature of the lesion and to relieve the obstruction.

References

1. Gamblin TC, Farmer LA, Dean RJ, Bradley RA, Dalton ML. Tracheal polyp. *Ann Thorac Surg.* 2002;73:1286-7.
2. Dincer I, Demir A, Akin H, Melek H, Altin S. A giant endobronchial inflammatory polyp. *Ann Thorac Surg.* 2005;80:2353-6.
3. Schnader J, Harrell J, Mathur P, Joseph C, Koduri J, Kvale P. Clinical conference on management dilemmas: bronchiectasis and endobronchial polyps. *Chest.* 2002;121:637-43.