Carinal wedge resection for lipoma combined with bronchoplastic lobectomy for lung cancer

Masatsugu Hamaji, MD · Toru Tanaka, MD, PhD
Hiromasa Morikawa, MD · Yoichiro Ueno, MD

Abstract A carinal tumor was detected in a 65-year-old male patient by preoperative bronchoscopic examination but was not diagnosed on simultaneous transbronchial biopsy. Also, a right lower bronchial tumor was diagnosed as squamous cell carcinoma. Resection of the carinal tumor and right lower lobectomy were performed simultaneously. We performed a modified one-stomata-type carinal reconstruction and flap bronchoplasty to prevent complications on anastomosis. This case report illustrates that these procedures represent useful options for carinal-bronchial reconstruction.

Key words Carinal lipoma · Lung cancer · Flap bronchoplasty · Carinal reconstruction

Introduction

Carinal reconstruction is a complicated and laborious procedure, the difficulty of which is compounded when combined with bronchoplastic lobectomy. In this case, we selected wedge carinal resection with modified one-stomata-type reconstruction and flap bronchoplasty to prevent complications on anastomosis. The results obtained in the present case illustrate that these selections are useful options for treatment of patients with carinal tumors.

Case

The patient was a 65-year-old man. An endobronchial tumor was detected on computed tomography (CT) during treatment of pneumonia. Preoperative bronchoscopy (Fig. 1) confirmed the presence of a carinal tumor. A transbronchial biopsy diagnosed the endobronchial tumor as squamous cell carcinoma (c-P1N0M0), but could not identify the carinal tumor. His relevant medical history included laparoscopic cholecystectomy (at age 54 years) and psoriasis vulgaris (at age 65 years) without steroid use. The patient was a current smoker. Tumor markers were as follows: carcinoembryonic antigen (CEA) 2.1 ng/ml; squamous cell carcinoma antigen (SCC) 4.2 ng/ml. General anesthesia was performed with a double-lumen bronchotracheal cannula.

We performed right lower lobectomy with flap bronchoplasty followed by lymphadenectomy via a posterolateral incision and fifth intercostal thoracotomy. Complete circumferential sleeve lobectomy was avoided because this resection was considered excessive in that it is more time-consuming and more likely to cause complications than wedge resection of the bronchus. We chose flap bronchoplasty (Fig. 2a) with interrupted 3-0 Vicryl sutures. We obtained about 1 cm of surgical margin from the tumor to the stump and had a pathology check of the frozen specimens of bronchial stump (Fig. 3), which were cancer-negative. Thereafter, we performed carinal wedge resection with modified one-stomata-type reconstruction (Fig. 2b). The intraoperative diagnosis of the carina tumor was hamartoma, and the lesion was shown to be nonmalignant. Carinal reconstruction was performed similar to the bronchoplasty and was covered with a fifth intercostal pedicled muscular flap. We did not preserve the right bronchial artery...
or branches. We dissected tracheobronchial, subcarinal, hilar, and interlobar lymph nodes, none of which was cancer-positive. The final pathological diagnoses were endobronchial squamous cell carcinoma (p-T1N0M0) and carinal lipoma.

The patient’s postoperative course was uneventful except for paroxysmal atrial arrhythmia. Postoperative bronchoscopy (Fig. 4) confirmed no stenosis on either anastomosis.

**Discussion**

Primary tracheal and carinal tumors are rare, and more than half of all carinal tumors identified to date have been benign. Endobronchial lipoma is a rare benign tumor and is sometimes difficult to diagnose by bronchoscopic biopsy. In the present case, we could not make a definitive diagnosis or completely exclude the possibility of malignancy of the carinal tumor. More-