Tracheal bronchus obliterated with bronchial carcinoid

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Tracheal bronchus (TB) is an aberrant bronchus that usually arises from the right lateral wall of the trachea less than 2 cm above the major carina and it was first described by Chiari in 1889 [1]. Two types of the anomaly are described: ‘supernumerary’, which is associated with a normal trifurcating right upper lobe bronchus, and ‘displaced’ in which instance the ectopic bronchus supplies the apical segment of the upper lobe [2].

A 33-year-old man was admitted to the chest ward with a complaint of chest pain and a history of treated pneumonia initiated 1 month ago. The initial chest radiograph showed a patchy consolidation in the right upper lung field. Flexible bronchoscopy revealed a right-sided tracheal bronchus. It originated from the posterio-lateral wall of the lower trachea about 1 cm above the tracheal bifurcation. A purplish tumor growth obstructing the distal TB lumen was found and was causing nearly total occlusion of it. Only two segmental bronchi were identified arising from the right upper lobe bronchi. They were posterior and apical branches. Remaining bronchial anatomy was otherwise normal. Both biopsy and cytologic brushing of the tumor were performed and histology revealed a carcinoid tumor. Computed tomography of the thorax disclosed a spiculated 7 cm mass in the right upper pulmonary lobe near the right tracheal border and accessory TB.

Utilizing one-lung ventilation with a left-sided double lumen endotracheal tube, a right thoracotomy was performed. The tumor was completely resected by apical segmentectomy with tracheoplasty. Histology confirmed the diagnosis of typical carcinoid tumor with no mitosis, necrosis or nuclear hyperchromasia. Postoperatively he made a good recovery and was discharged home on day 5.

Contrary to the numerous variations of lobar or segmental bronchial subdivisions, abnormal bronchi originating from the trachea or main bronchi are rare. It occurs in approximately 2% of people [2]. Tracheal bronchus is a normal finding in sheep, swine, cattle, camels, goats, and giraffes, but a rare and usually incidental finding in humans [2]. TB is of no clinical significance, although some reports indicate that it is associated with recurrent pneumonia, chronic bronchitis, and bronchiectasis [3].

Carcinoid tumors are low-grade neoplasms of neuroendocrine cells, which constitute 1–2% of all lung tumors [4]. The preoperative knowledge of the histologic subtype of the tumor, the presence of lymph node involvement, and the intraoperative assessment of resection margins by frozen section examination could assist in therapeutic decision-making. The carcinoid tumor was completely resected by right upper lobe apical segmentectomy. We additionally performed tracheoplasty since, the tumor was protruded from the ‘displaced’ apical TB and the distance between TB and tracheal carina was barely 1 cm.

There is only one case of bronchial carcinoid developing from the tracheal bronchus [5] and we present a second case. Unlike ours, their report indicated a ‘supernumerary’ TB with otherwise normal right upper lobe branching. Although there is a lack of evidence that TB is more susceptible to malignancy, careful preoperative bronchoscopic and tomographic evaluation is warranted to exclude this possibility, thus permitting a conservative lung-sparing resection.

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Letter to the Editor

Posterolateral thoracotomy is behind limited thoracotomy and thoracoscopic surgery in terms of postoperative pulmonary function and walking capacity

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Posterolateral thoracotomy (PLT) has been frequently used for non-cardiac thoracic surgery. Although this procedure provides excellent access for lung cancer surgery, it requires the transection of large muscles which contributes to postoperative pulmonary insufficiency and postoperative chest pain. In an attempt to decrease these shortcomings, minimally invasive thoracotomy procedures, such as muscle-sparing thoracotomy (MST), limited thoracotomy and video-assisted thoracoscopic surgery (VATS) have been used with some success [1–5]. However, although VATS involves a more limited thoracic incision than the MST or limited thoracotomy, the difference in impairment of postoperative pulmonary function between these techniques is still controversial [1,2].

Between 1991 and 2000, we conducted lobectomy and lymph node dissection for 220 patients with lung cancer. We have changed the PLT to a more limited approach as follows: PLT without muscle sparing from 1991 to 1994, antero-axillary thoracotomy (AAT) from January 1995 to December 1996 [3], anterior limited thoracotomy (ALT) from January 1997 to July 1999 [4], and VATS since August 1999 [5]. To compare the difference in impairment of pulmonary function and walking capacity in patients undergoing lobectomy by those procedures, we compared postoperative vital capacity (VC) and the 6-min walking (6MW) test.

The study was a retrospective analysis. The 28 patients in each group were consecutively selected in order of the most recent patients to match for sex and age (±5 years). VC was measured before surgery and 1, 2, 4, 12 and 24 weeks after surgery. The distance covered during the 6MW test (6MWD) was measured before surgery and in a postoperative test 1 week after surgery. The percentage changes in postoperative VC and 6MWD compared with those preoperative values were evaluated.

No significant differences were observed between the groups in terms of preoperative pulmonary function, 6MW, lobectomy site or pathologic tumor stage. Because the chest tubes were removed within 5 days of surgery in all patients, postoperative VC and 6MWD values were measured without chest tubes in situ. Compared with the VATS, ALT and AAT groups, PLT patients showed a significant impairment of VC from 1 to 24 weeks after surgery (P < 0.05–0.001) and also a significant impairment of 6MWD 1 week after surgery (P < 0.01–0.001). The AAT group showed a significant impairment of 6MWD 1 week after surgery compared with the VATS and ALT groups (P < 0.001 and P < 0.05, respectively). There was no significant difference in impairment of either VC or 6MWD between VATS and ALT.

These results indicate that transection of a large muscle group and the wide intercostal space opened up in the PLT procedure impaired walking capacity and pulmonary function, not only early after surgery but also long after, compared with the other minimally invasive thoracotomy procedures. The PLT therefore could not be recommended for general lung cancer surgery. VATS and ALT are better procedures than AAT in terms of recovery of walking capacity early after surgery, VATS and ALT are similar to each other in terms of impairment of pulmonary function and walking capacity after surgery.

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Letter to the Editor

Sternal dehiscence after cardiac surgery and ACE type 1 inhibition

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We read with interest the case report "Sternal dehiscence after cardiac surgery and ACE type 1 inhibition" by Qamar Abid and associates (Eur J Cardiothorac Surg 2001;20:203-204).

Sternal dehiscence is a serious complication of cardiac surgery with devastating consequences. We have had a large number of patients on lisinopril and a few with intractable cough either as a side effect of lisinopril or because of chronic obstructive airways disease or recent smoking prior to surgery. We have never experienced sternal dehiscence as a consequence of these causes of intractable cough. The difference in our results seem to be that of technique of sternal closure. We note that the authors used two sternal wires for the manubrium and four pericostal. When they rewired sternum in both cases, again only two manubrial wires and four pericostal stainless steel wires were used even though one of the patients was described as overweight.

We use three manubrium and five or six wires for the body of sternum depending on the size of the patient. Meticulous wound...