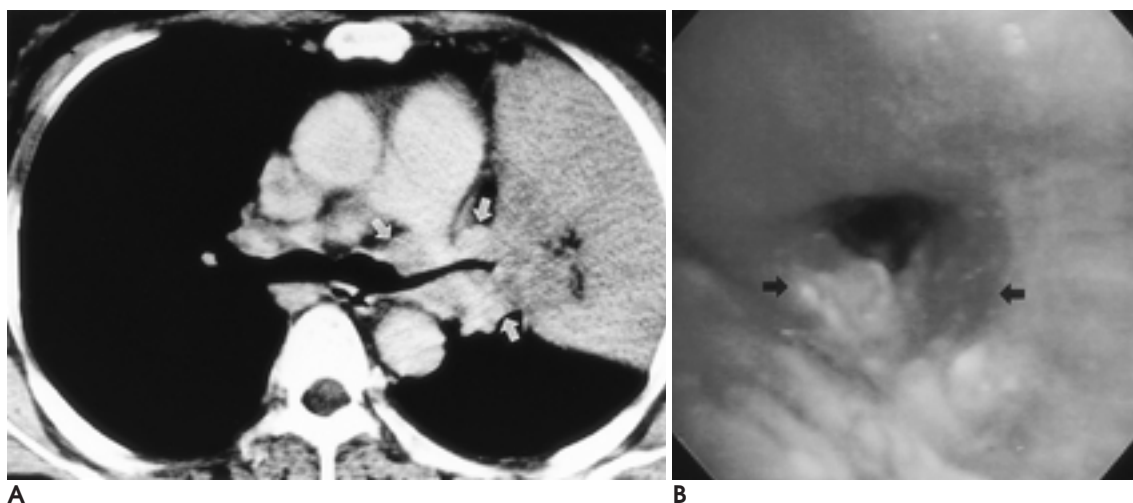




: CT ,  
 CT  
 : 1994 5 1997 3  
 17 CT  
 27 - 75 ( 56 ) 9:8  
 5 가 . CT  
 : 17 , 20 ,  
 (smooth narrowing) 11 가 (intraluminal mass)가  
 4 , (occlusion)가 3 , 2 . 20 12  
 가 8  
 (mucosal nodularity, n=13)  
 (polypoid mass, n=3) 16 , (total obstruction)가 4  
 CT 17 3  
 CT  
 가  
 : CT 가  
 CT  
 (1). (endobronchial CT  
 metastasis)  
 가  
 , 가  
 , 1994 5 1997 3  
 (2, 3). 17 20  
 가 9 , 가 8 56  
 (4, 5). (27 - 75 ) (Medigraphics PF/  
 2% DX, MN, U.S.A.) , (forced vital  
 (4), capacity: FVC) 1 (forced expiratory  
 (3, 6 - 8). volume in one second: FEV1)  
 5 , 2 , 2 ,  
 2 , , , , ,  
 1 .

<sup>1</sup>  
<sup>2</sup>

CT  
 , CT SCT 5000 - T (Schimadzu, Kyoto, Japan) 7 가 가 5 , 6  
 . Ultravist (Schering AG, Berlin, Ger - many) 5 . 17 (n = 3)  
 150 ml 10 mm 10 mm (n = 3)  
 (level, - 800 - 700 Hu; width, 1400 CT 15  
 1500 Hu) (level, 30 - 50 Hu; width, 300 - 400 , 3 18  
 Hu) (CT : 90%).  
 Olympus BF 1T30 (Olympus, Tokyo, Japan) , 가 5 가 ,  
 (biopsy forceps) 가 3 ,  
 . CT 4 가 1 . 2 CT  
 (1 - 14 ) CT 2  
 , CT (Table). 20 CT  
 , CT 11 가  
 (Fig. 1, 2), 4 (Fig. 1A), 1  
 가 , 6  
 (bronchovascular bundle)  
 (Fig. 2). 4  
 (Fig. 3), 1  
 , 1 가  
 가 3 가  
 가 2  
 가 20 12 가 8  
 7 , 4 2 11 가 ,  
 FVC FEV1 2.63 L 1.89 L  
 ,  
 5 , (obstructive pneumonia)  
 (Fig. 1A) (mucoid impac -



**Fig. 1.** 55-year-old woman with endobronchial metastasis from squamous cell carcinoma of the uterine cervix.  
**A.** CT scan shows smooth luminal narrowing of the left upper lobe bronchus. Notice hilar and peribronchial lymph node enlargement (arrows), and left upper lobe atelectasis.  
**B.** Bronchoscopy reveals luminal narrowing with mucosal nodularity of the left upper lobe bronchus (arrows).

**Table 1.** Summary of 17 Patients with Endobronchial Metastasis

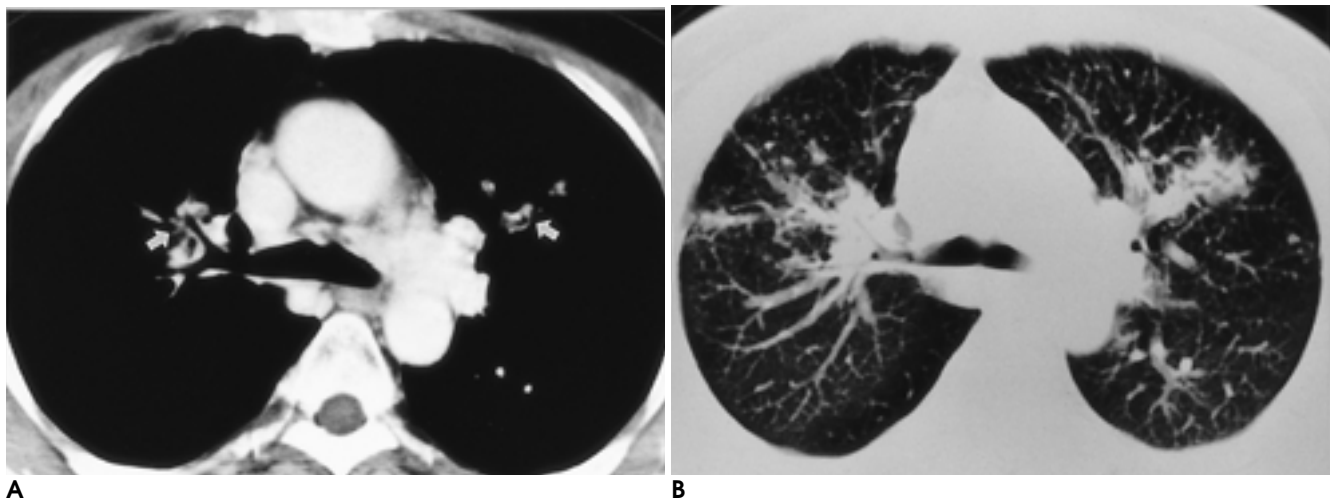
Patient No	Age/Sex	Primary Site	Location of Bronchial Lesion	CT Finding		Bronchial Finding
				Bronchoscopic Abnormality*	Peribronchial Lesion	
1	55/F	Rectum	LUL	Smooth narrowing	LN enlargement	Mucosal nodularity
2	48/M	Bile duct	LUL	Smooth narrowing	LN enlargement	Mucosal nodularity
3	52/F	Uterine cervix	RML	Smooth narrowing	-	Mucosal nodularity
4	75/M	Stomach	RML	Smooth narrowing	Parenchymal mass	Mucosal nodularity
5	50/F	Uterine cervix	RUL	Smooth narrowing	LN enlargement	Mucosal nodularity
6	44/F	Uterine cervix	LUL, RUL	Smooth narrowing	-	Mucosal nodularity
7	58/F	Breast	LUL, RUL	Smooth narrowing	LN enlargement	Mucosal nodularity
8	60/F	Uterine cervix	LUL, RUL	Smooth narrowing	-	Mucosal nodularity
9	74/M	Liver	RML	Intraluminal mass	Parenchymal mass	Total obstruction
10	67/M	Urinary bladder	RMB	Intraluminal mass	-	Polypoid mass
11	52/M	Kidney	RLL	Intraluminal mass	-	Polypoid mass
12	70/M	Kidney	LLL	Intraluminal mass	LN enlargement	Polypoid mass
13	54/F	Uterine cervix	RUL	Occlusion	Parenchymal mass	Total obstruction
14	27/M	Skin	RLL	Occlusion	Parenchymal mass	Total obstruction
15	58/M	Larynx	RLL	Occlusion	Parenchymal mass	Total obstruction
16	46/F	Rectum	RML	Normal	Parenchymal mass	Mucosal nodularity
17	61/M	Skin	RML	Normal	Parenchymal mass	Mucosal nodularity

RUL: right upper lobe, RML: right middle lobe, RLL: right lower lobe

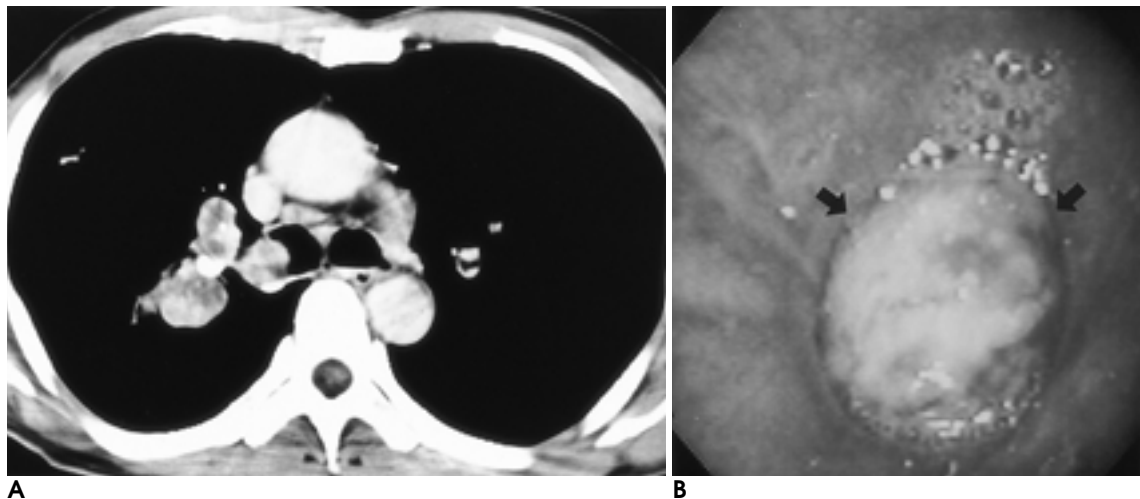
RMB: right main bronchus, LUL: left upper lobe, LLL: left lower lobe

\* Radiographic appearance according to the Naidich et al. (9)

tion) 3 1 . , Braman (4)  
 17 가 2%  
 , 3 20 . Heitmiller (12)  
 (Table).  
 16 (mucosal nodular - (segmental bronchus)  
 ity, n = 13) (polypoid mass, n = 3) Heitmiller  
 (Fig. 1B), 4  
 (total obstruction)가 (Fig. 3B). 1)  
 CT 17 가 , 2)  
 3 가 CT , 3) , 4)  
 , 5)  
 . 9 CT (3, 6). Ikezoe (3) 6 CT  
 . 2 CT (subsegmental bronchus)  
 , 가 3가 2  
 , 1  
 CT . 3  
 5 CT 가  
 CT Naidich (9)  
 , , ,  
 , 6가 ,  
 가 (major 가  
 airways)가 . 20 12  
 . King (10), Rosenblatt (11) 가 ,  
 , 8  
 (microscopic invasion) 30%  
 181



**Fig. 2.** 44-year-old woman with endobronchial metastasis from squamous cell carcinoma of the uterine cervix. Mediastinal window (A) and lung window (B) setting of CT scans show focal smooth luminal narrowing with apparent peribronchial soft tissue density surrounding anterior segment of both upper lobes (arrows).



**Fig. 3.** 67-year-old man with endobronchial metastasis from transitional cell carcinoma of the bladder. A. CT scan shows an intraluminal polypoid mass in the right main bronchus. Two nodules are also seen in the right upper lobe. B. Bronchoscopy reveals polypoid mass (arrows) with near total luminal obstruction in right main bronchus.

entation) CT가  
Ikezoe (3) CT  
가 , 2 CT  
가 가 , CT  
(6, 12, 13) , CT  
, Naidich , Webb , Set 90%, 93%, 100% 가 (9, 15). CT  
(9, 14, 15). 2 , 9 CT  
90% (18/20)가 CT , 20  
17 CT  
Naidich (9) CT (oblique ori- 가 CT  
182

16. \_\_\_\_\_, 1992:43:806-813

## Endobronchial Metastasis: CT Findings and Its Usefulness in Bronchoscopic Correlation<sup>1</sup>

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**Purpose:** To evaluate the CT findings of bronchial abnormalities in patients with endobronchial metastasis from extrapulmonary tumors, and to correlate these with the bronchoscopic findings.

**Materials and Methods:** The authors retrospectively reviewed the CT and bronchoscopic findings of 17 patients (M:F=9:8; mean age, 56 years) with histologically proven endobronchial metastasis from extrapulmonary primary tumors. Carcinoma of the uterine cervix (n = 5) was the most common primary site for endobronchial metastasis. CT findings of bronchial abnormalities with associated peribronchial and lung parenchymal lesions were analyzed and compared with the bronchoscopic findings.

**Results:** Among the 17 patients, 20 sites of bronchial abnormalities were visualized bronchoscopically. CT findings of bronchial abnormalities were smooth narrowing (n = 11), occlusion (n = 3), intraluminal mass (n = 4), and normal (n = 2). Peribronchial lesions (lymph node enlargement or parenchymal mass) were found in 12 cases. Bronchoscopy revealed bronchial narrowing due to a mucosal nodule or intraluminal polypoid mass in 16 cases, and total obstruction of the bronchus in four. With regard to the identification of bronchial abnormalities, the findings of CT and of bronchoscopy agreed in 17 cases and disagreed in three. While bronchoscopy was advantageous for detecting early mucosal abnormality, CT effectively evaluated the extent of a lesion beyond the stenosis or bronchial obstruction. CT was also useful for predicting the causes of bronchial abnormalities.

**Conclusion:** CT is relatively accurate in evaluating bronchial abnormalities, and in patients with endobronchial metastases may be used as a complementary procedure to bronchoscopy for evaluating the extent of the lesion.

**Index words :** Bronchi, CT  
Bronchi, stenosis or obstruction  
Bronchoscopy

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