



When TB Narrows the Airway

Tuberculosis is not only a disease of the lung. It can thicken and narrow the trachea and bronchi – and it is easy to miss.

A 29-year-old came to us with a few weeks of breathlessness and weight loss. The CT of the chest showed the trouble was not in the lung first – it was in the airways themselves.

The wall of the trachea was thickened and narrowed, the origin of the right main bronchus was tightly pinched, and the **bronchus intermedius** – the airway to the middle and lower parts of the right lung – was completely blocked, with the lung beyond it filling up with trapped secretions.

The clue to the cause was in the rest of the scan and the history. Both upper lobes carried old, healed scarring – the fingerprints of **previous tuberculosis** – and the patient had indeed been treated for TB in the past. Put together, this was tuberculosis of the airways: **tracheobronchial tuberculosis**

Tuberculosis in the airway

TB is usually thought of as a disease of the lung tissue, but it can also settle in the lining of the trachea and bronchi. It is not rare: it is found in roughly **10 to 50 percent** of adults with active TB when the airways are examined, and even more often in children. It gets there in several ways – spreading directly from lung disease, traveling along lymphatics, eroding in from neighboring lymph nodes, or from inhaled bacteria settling on the airway lining.

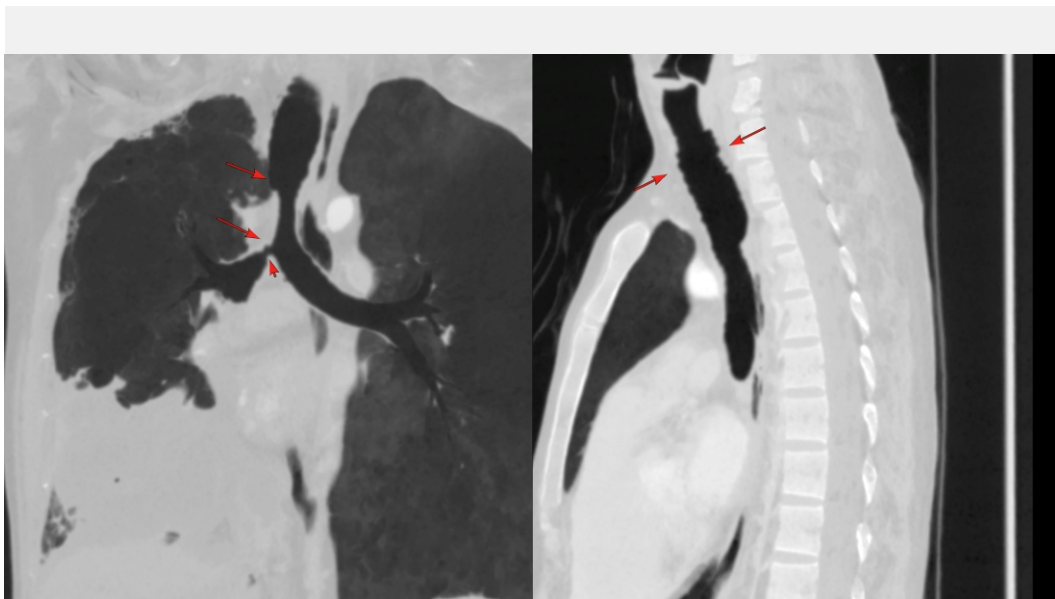


Fig. 1 – Airway views (coronal and sagittal). The trachea and the right-sided airways are thickened and narrowed (arrows), with tight stenosis at the origin of the right main bronchus and block of the bronchus intermedius – the airway to the right middle and lower lobes.

**At a glance**

- ◆ TB is not only a lung disease — it can thicken and narrow the trachea and bronchi, and is found in 10 to 50 percent of adults with active TB.
- ◆ It scars. Most patients develop some airway narrowing, which can

become a permanent stenosis even after the TB is treated.

- ◆ It is easy to miss, especially when the disease is patchy or the presentation is atypical. In anyone with breathlessness and a TB history, look carefully at the airways, not just the lungs.

The real problem is scarring. More than two-thirds of patients develop some narrowing of the airway, often within the first few months, and this can harden into a **fixed stenosis** that persists even after the infection itself is cured. On CT, active disease shows a thick, enhancing airway wall; healed disease shows wall thickening and narrowing — and telling the two apart can be difficult.

For the referring physician. When a patient with past or suspected tuberculosis has breathlessness, wheeze or a stubborn cough that does not quite fit the lung findings, think of the airway. Tracheobronchial TB narrows the trachea and bronchi, is easily overlooked on a quick read, and — because it scars — is worth catching early, while treatment can still keep the airway open.

References: Pathak V, et al. Tracheobronchial tuberculosis. J Thorac Dis 2016;8:3818–3825. · Yang MJ, et al. Lancet Infect Dis 2023;23:786.

Adapted from Case of the Day 217. — Dr. Bhavin Jankharia

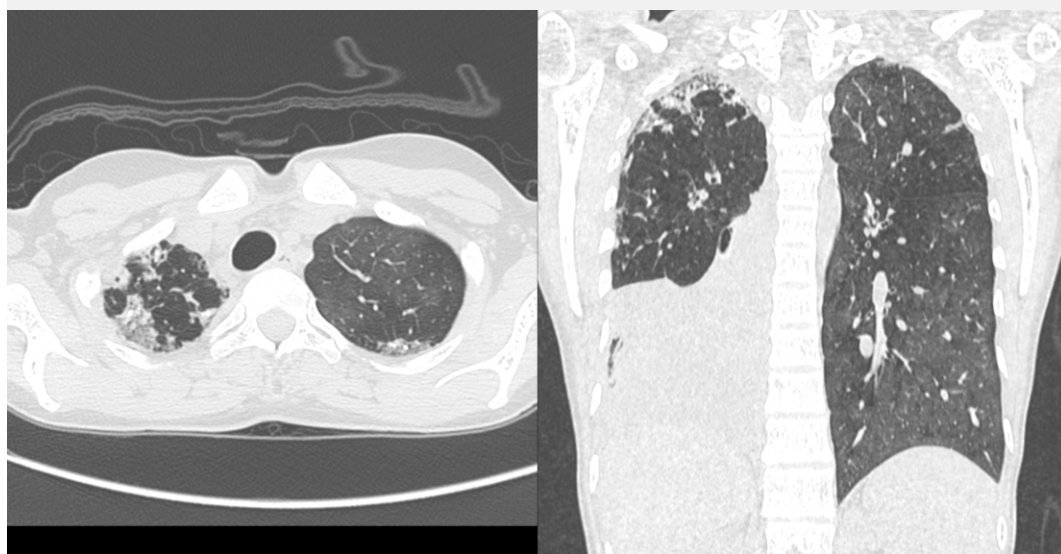


Fig. 2 – Old TB scarring in the upper lobes. Healed, fibrotic change in both upper lobes — the stigmata of previously treated tuberculosis. This background was the clue that pointed to TB as the cause of the airway narrowing.

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