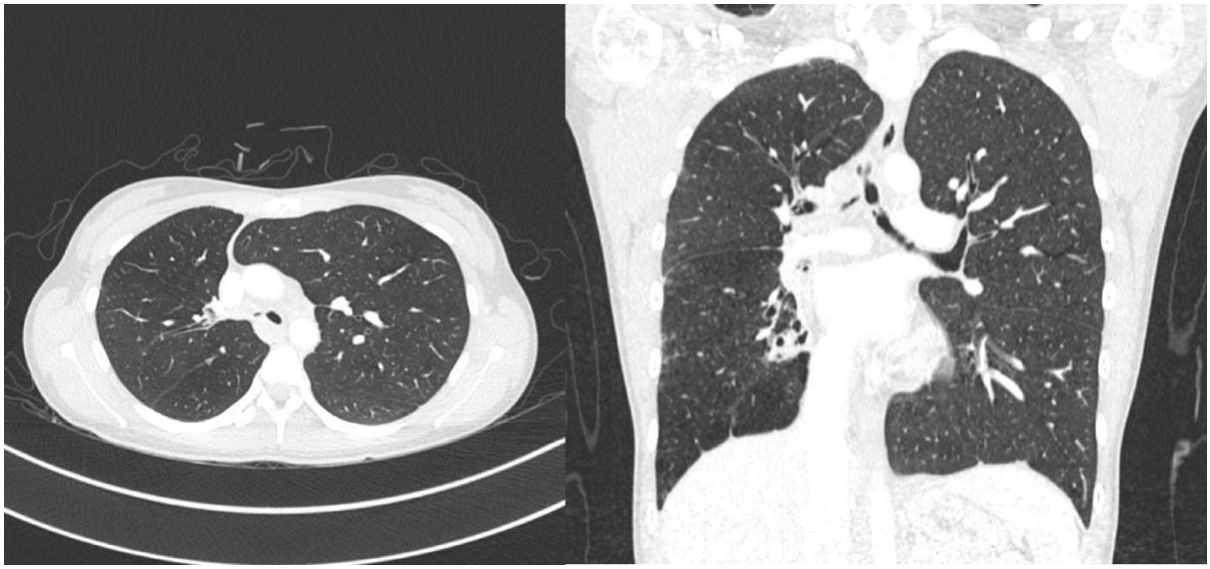
Supplementary Material

Virtual Bronchoscopic Navigation Guided Recanalization of Chronic Total Post-Tuberculosis Bronchial Stenosis

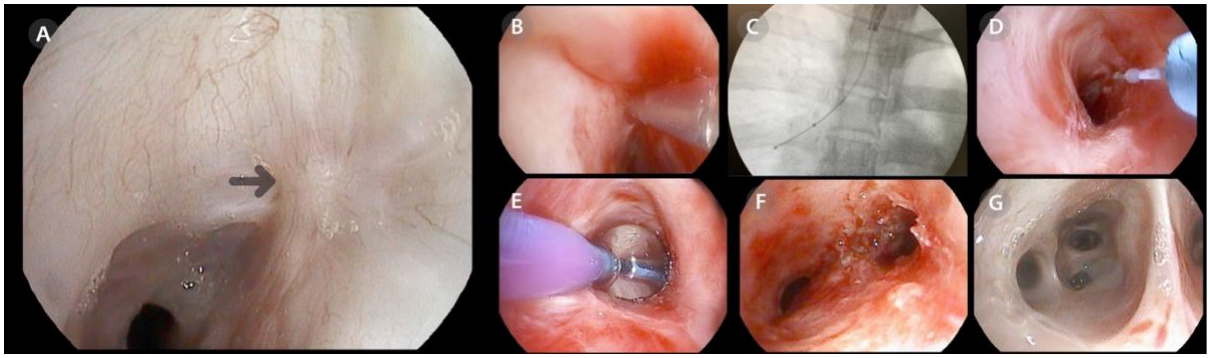
Mediastinal Setting of Axial and Coronal CT Thorax Pre-Procedure

Right main bronchus (RMB) was stenosed and overlayed by a membrane-like structure. Distally, RMB was patent albeit appear malacic, however, distal airways over right endobronchial tree were patent and normal. Left main bronchus (LMB) is patent with normal distal airways.



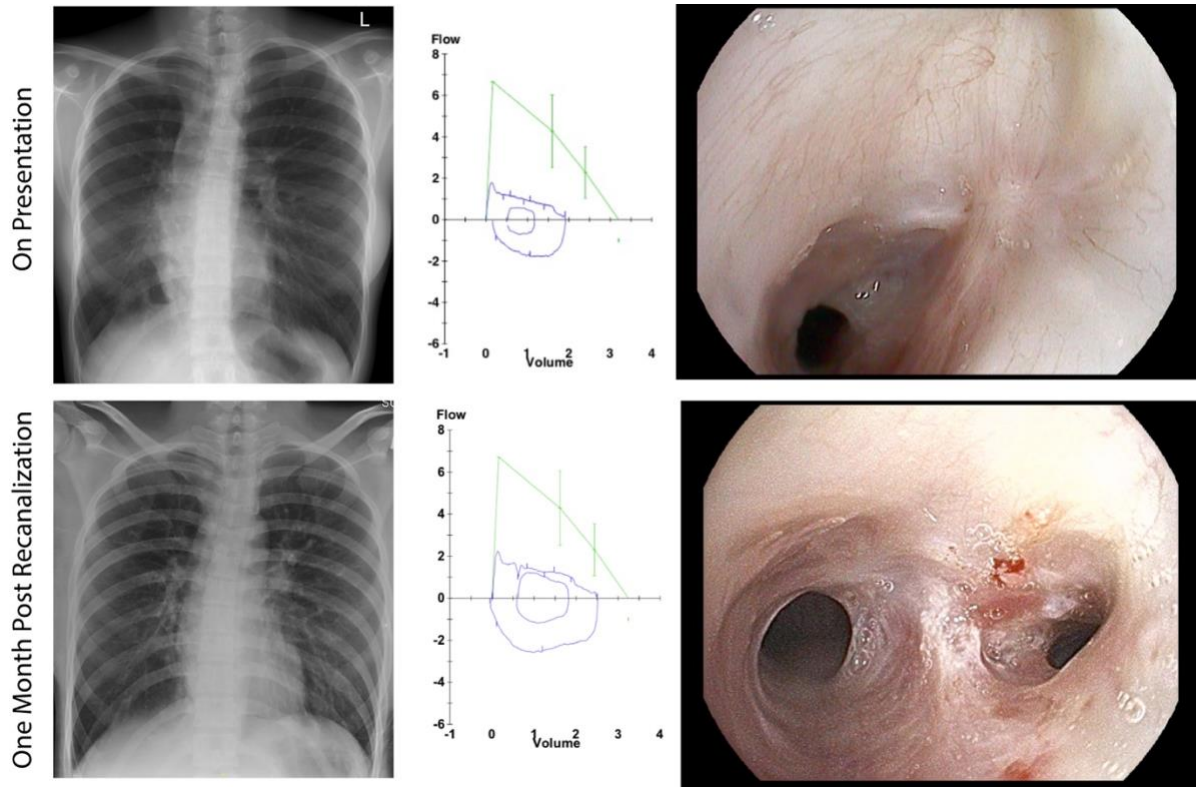
Lung Setting of Axial and Coronal CT Thorax Pre-Procedure

CT thorax demonstrated significant reduction of right lung volume with hyperinflation of left lung.



Recanalization of the right main bronchus chronic total occlusion (RMB-CTO)

The area of interest (*arrow*) identified by VBN showed cicatricial mucosa with converging fibrotic band (***Panel A***). 19 gauge TBNA needle (***Panel B***) was first punctured at the area of interest, followed by passing of guidewire under fluoroscopic vision via the mucosal defect into right endobronchial tree (***Panel C***). Mucosal incision and dilatation of the RMB ostium was performed with electrocautery needle knife (***Panel D***) and CRE balloon (***Panel E***). Post procedure, RMB was recanalized successfully (***Panel F***) with visualization of a normal right middle and lower lobe bronchi (***Panel G***).



Chest radiograph, flow volume loop and main carina on presentation and one month post RMB recanalization

Chest radiograph demonstrated marked improvement of right lung volume with significant improvement of dynamic lung volume on spirometry. RMB ostium remain patent on one month surveillance bronchoscopy with minimal granulation tissue.