

Bronchoscopic Intervention for Endobronchial Tuberculosis

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Airway tuberculosis (TB) is a unique feature of *Mycobacterium tuberculosis* infection involving tracheobronchial tree. After the infection, healing process of TB would result in tracheobronchial fibrosis causing airway stenosis in 11-42% of patients. In Korea, where pulmonary TB is still prevalent, airway TB is the most common cause of benign tracheobronchial stenosis. Post-TB tracheobronchial stenosis (PTTS) may cause progressive dyspnea and often represents life-threatening respiratory insufficiency. Surgical resection and reconstruction after the eradication of *Mycobacterium tuberculosis* has been the preferred treatment for most patients with PTTS. However, most of PTTS occurs in young female patients, who usually refuse surgery. In addition, active TB infection would provoke many problems during and after surgical management.

Bronchoscopic intervention has been developed to deal with airway stenosis and to avoid the potential morbidities of surgery. We had experienced repeated ballooning in PTTS patients. However, the overall success rate was less than 10%, needing new modality of intervention. Multiple techniques, including ballooning, laser resection, bougienation and silicone stenting were applied to PTTS patients at one stage under rigid bronchoscopy. Almost all patients experienced immediate relief of symptom. Silicone stenting had a key role for intervention, and stents could be removed successfully in about 2/3 of patients at a median 1.5 years after the insertion. After the stent was removed, patients maintained good airway patency and pulmonary function. Acute complications developed in less than 10% of patients without mortality. Subgroup analysis showed that successful removal of stent was significantly associated with male sex, young age, good baseline lung function and less use of bougienation.

In conclusion, bronchoscopic intervention could be applied to PTTS patients with acceptable efficacy and tolerable safety.