

# Clinical Outcomes Of Therapeutic Rigid Bronchoscopy : 3-Year Experience Of Single Center

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## I. Background

- Although the field of interventional pulmonology has grown significantly, the use of rigid bronchoscopy in South Korea is still limited.
- The aim to analyze our clinical experience of rigid bronchoscopy at single tertiary center during 3 years period.

## II. Methods

- From April 2019 to March 2022, we retrospectively reviewed that who underwent rigid bronchoscopy at Asan Medical Center.
- All rigid bronchoscopies were performed under general anesthesia in operating room or intensive care unit.
- Total 83 rigid bronchoscopies were performed on 58 patients.

## III. Result

- Among 58 patients, 35 (60.3%) were men, the median age was 59.0 years (IQR, 54.0–66.0 years).
- The most common etiology of airway pathologies were malignancy (60.3%), after that, TB stenosis (15.5%), post lung transplantation stenosis (10.3%), and other benign stenosis (13.7%).
- The level of airway obstruction included mainly trachea (41.0%), right (21.7%) and left (21.7%) main bronchus.
- The average of procedure time was 53.1 minutes (95% CI, 48.0–58.6 minutes).
- Stent insertion was done in 75 cases (90.4%), stent removal or reposition was done in 6 cases (7.2%), and tumor debulking was done in 2 cases (2.4%)
- Silicon stent was the most frequently used in 71.1% of patients.
- Successful rate of procedure was 94.0%.
- Complications occurred in 9 procedures (10.8%), the most common complication was bleeding (6.0%).

Table 1. Baseline characteristics of patients

Characteristics	No (n=58)
Age, median (range), yr	59.0 (54.0–66.0)
Male gender	35 (60.3%)
<b>Etiology</b>	
Malignancy (lung origin)	21 (36.2%)
Malignancy (non-lung subtype)	14 (24.1%)
TB stenosis	9 (15.5%)
Post lung transplantation stenosis	6 (10.3%)
Post intubation stenosis	2 (3.4%)
Benign disease*	6 (10.3%)

\* Benign disease : acid ingestion, relapsing polychondritis, foreign body

Table 2. Level of obstructions and details of rigid bronchoscopy

	No (n=83)
<b>Level of obstruction</b>	
Trachea	34 (41.0%)
Right main bronchus	18 (21.7%)
Left main bronchus	18 (21.7%)
Carina	8 (9.6%)
Distal bronchus (RBI, RLL)	5 (6.0%)
<b>Procedure</b>	
Stent insertion	75 (90.4%)
Stent removal	5 (6.0%)
Stent reposition	1 (1.2%)
Tumor debulking	2 (2.4%)
<b>Stent type</b>	
Straight	59 (71.1%)
Y	10 (12.0%)
Angulated	6 (7.2%)
Not used	8 (9.6%)

Table 3. Complications after rigid bronchoscopic intervention

	No (n=83)
Bleeding	5 (6.0%)
Pneumomediastinum	3 (3.6%)
Airway injury	1 (1.2%)
Stent migration and/or rotation	0
Death	0

## IV. Conclusion

- Therapeutic rigid bronchoscopy is an effective and safe treatment modality for central airway obstruction.
- We suggest that interventional pulmonologists must consider using a rigid bronchoscope in treating patients with central airway disease.