

Figure S1 ECAC phenotypic treatment algorithm. ECAC, expiratory central airway collapse; TBP, tracheobronchoplasty; USEMS, uncovered self-expandable metallic stents.

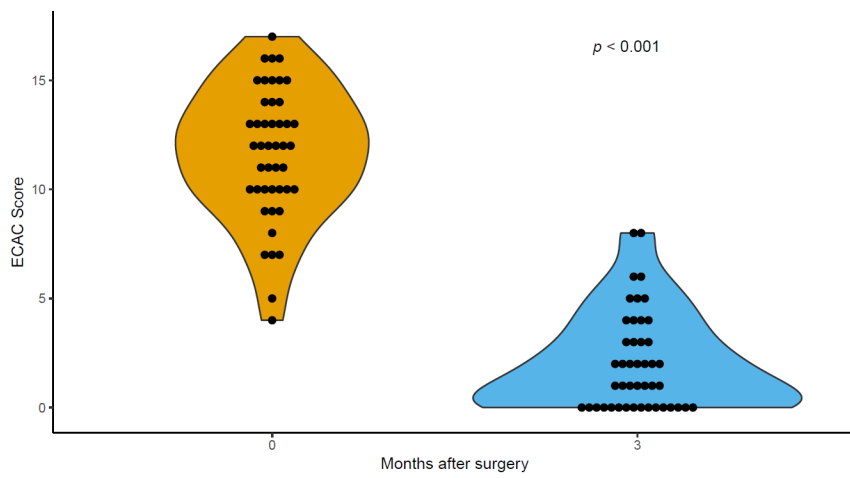


Figure S2 Changes in ECAC severity score before and 3 months after TBP. ECAC, expiratory central airway collapse; TBP, tracheobronchoplasty.

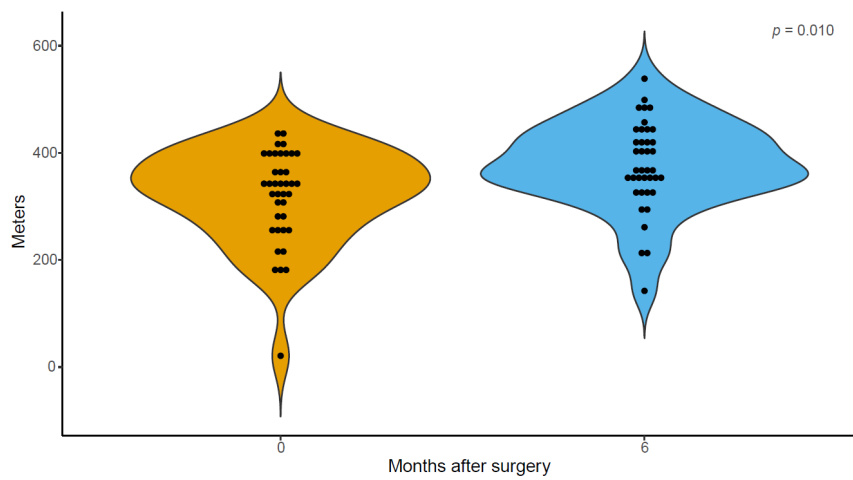


Figure S3 Changes in 6MWTs before and 6 months after TBP. 6MWTs, six-minute walk tests; TBP, tracheobronchoplasty.

Table S1 Surgical outcomes by the type of surgical approach

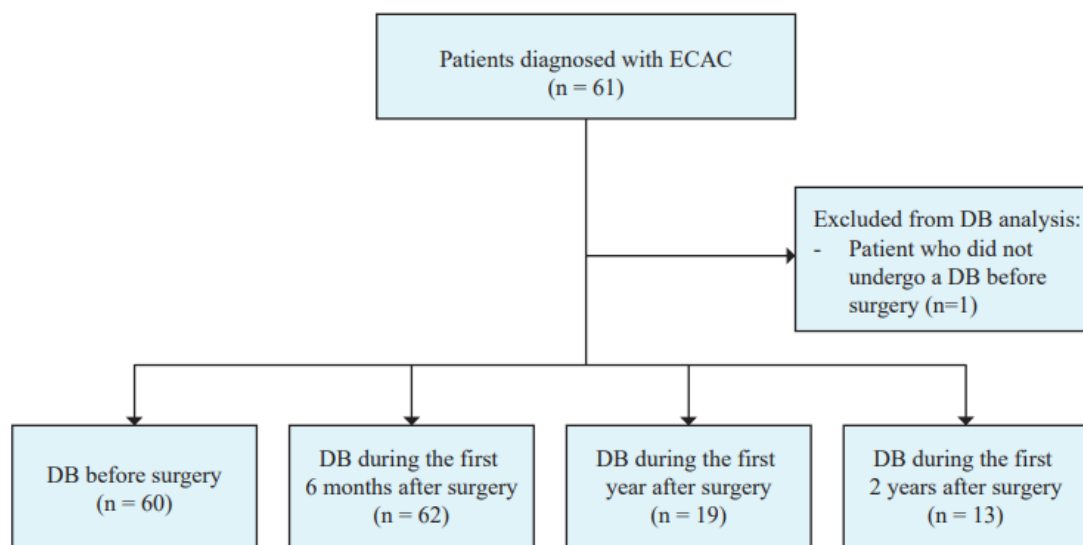
XXXXX	Open (n=33)	Robotic (n=28)	Overall (n=61)	P value
Duration of surgery (min)	352 [312–375]	325 [290–393]	335 [297–390]	0.55
Days with chest tubes	4.00 [3.00–5.00]	1.00 [1.00–1.00]	2.00 [1.00–4.00]	<0.001
Days in the ICU	1.00 [1.00–2.25]	0 [0–0]	1.00 [0–2.00]	<0.001
Length of stay (days)	6.00 [5.00–7.00]	2.00 [2.00–3.00]	4.50 [2.00–6.00]	<0.001

Data is presented as medians and interquartile ranges. ICU, intensive care unit.

Table S2 Surgical complications by the type of surgical approach based on the Clavien-Dindo classification

CD	Open (n=33)	Robotic (n=28)	Overall (n=61)	P value
I	29 (88%)	23 (82%)	52 (85%)	0.72
II	5 (15%)	5 (18%)	10 (16%)	0.99
IIIa	4 (12%)	2 (7%)	6 (10%)	0.68
IIIb	10 (30%)	2 (7%)	12 (20%)	0.02
IVa	0	0	0	0.99
IVb	0	0	0	0.99
V	0	0	0	0.99

Most CD I complications involved increased need for pharmacologic pain management and monitoring for pneumothorax or subcutaneous emphysema. CD II complications primarily included wound infections, bronchitis, and pneumonia. CD IIIa complications consisted of excessive secretions requiring bronchial hygiene, pleural effusions requiring thoracentesis, and mesh erosions under surveillance. CD IIIb complications were mainly redo surgeries due to worsening symptoms and mesh erosions requiring bronchoscopic removal. CD, Clavien-Dindo.

**Figure S4** Dynamic bronchoscopies performed during follow-up. ECAC, expiratory central airway collapse; DB, dynamic bronchoscopy.