

Table S1 Clinic Characteristics in patients received different valves

Variables	Groups		p value
	EBV(n=11)	IBV(n=8)	
Age-year	57.00(52.00-67.00)	63.00(53.25-66.00)	0.657
Male sex-no. (%)	11(100%)	8(100%)	-
Lung function			
FEV ₁ (L)	0.56(0.45-0.60)	0.74(0.64-0.89)	0.041
FEV ₁ (%pred)	21.50(18.60-29.63)	27.40(19.63-29.88)	0.492
FVC(L)	1.82(1.63-2.04)	2.32(1.54-3.13)	0.206
FVC(%pred)	43.80(35.90-51.60)	60.75(50.28-79.50)	0.026
FEV ₁ /FVC-%	32.65(26.06-35.36)	29.97(25.31-35.73)	0.840
TLC(L)	9.15(7.86-9.44)	8.92(8.01-9.22)	0.657
TLC(%pred)	149.10(120.80-149.20)	136.35(132.33-143.93)	0.840
RV(L)	7.10(6.00-7.35)	6.21(5.85-6.86)	0.206
RV(%pred)	290.90(279.00-348.40)	257.95(235.05-284.70)	0.062
6MWD(m)	170.00(120.00-230.00)	392.00(328.50-427.25)	<0.001
mMRC scale	3.50(3.00-4.00)	3.00(2.00-3.00)	0.021
TLV-ml	1817.70(1039.70-2281.38)	1837.45(1528.70-2160.68)	0.829
Target lobe LAA%	51.45(28.65-56.35)	32.40(27.75-52.15)	0.633

Data are presented as median (Q1-Q3) unless otherwise noted. FEV₁=forced expiratory volume in 1s; FVC=forced vital capacity; TLC= total lung capacity; RV=residual volume;6MWD=6-min walk distance; mMRC=modified Medical Research Council; TLV= Target lobe volume; LAA%= percentage of low attenuation area; EBV= Endobronchial Valve; IBV= Intrabronchial Valve.

Table S2 Clinic outcomes in patients treated with different valves

Outcome (Median change)	1-Month			12-Month		
	EBV (n=10)	IBV (n=5)	P value	EBV (n=6)	IBV (n=7)	P value
Lung function						
ΔFEV1 (L)	0.12 (0.04–0.29)	0.08 (0.05–0.22)	0.679	0.02 (–0.14–0.12)	0.00 (–0.08–0.06)	0.836
ΔFEV1-%	25.83 (7.15–54.52)	10.00 (5.43–38.30)	0.594	2.96 (–19.13–29.23)	0.00 (–10.13–6.52)	0.836
ΔFEV ₁ (pred%)	2.8 (–0.50–8.45)	3.00 (1.70–7.55)	0.679	0.95 (–4.73–10.58)	0.10 (–2.20–2.10)	0.731
ΔFVC (L)	0.69 (0.19–0.93)	0.34 (0.09–0.42)	0.129	0.37 (0.16–0.83)	0.10 (–0.10–0.10)	0.138
ΔTLC (L)	–0.57 (–1.19–1.34)	–0.78 (–1.33–0.08)	0.440	0.26 (–1.13–1.27)	–0.15 (–0.50–0.09)	0.445
ΔRV (L)	–1.04 (–1.69–0.05)	–0.94 (–1.48––0.21)	0.859	–0.16 (–1.51–1.35)	–0.02 (–0.11––0.01)	0.836
Δ6MWD-m	150.00 (84.00–169.50)	–5 (–74–106)	0.019	145.50 (69.00–204.00)	–50.00 (–153.00–113)	0.024
Δ6MWD-%	45.24 (25.71–55.29)	–1.12 (–23.8–22.12)	0.008	58.12 (21.37–115.46)	–11.11 (–37.05–28.25)	0.042
ΔmMRC	–1.00 (–2.00–1.00)	0 (–1.00–0.50)	0.052	– ^a	– ^a	
ΔmMRC-%	–33.33 (–54.17––25.00)	0 (–33.33–16.67)	0.126	– ^a	– ^a	

Data are Presented as median (Q25 - Q75) unless otherwise noted. ^a, lost follow up. See *Table S1* legends for expansion of other abbreviations.

Table S3 Subgroup Analysis: changes of ipsilateral airway in EBV and IBV groups

		1-month	P	3-month	P	6-month	P	12-month	P
ΔWT (mm)									
3rd-	EBV	-0.10 (-0.60-0.07)*	0.454	-0.02 (-0.42-0.21)	0.751	-0.14 (-0.25-0.10)	0.358	-0.02 (-0.14-0.22)	0.278
	IBV	-0.05 (-0.21-0.04)		-0.03 (-0.38-0.13)		-0.25 (-0.41--0.04)*		-0.16 (-0.43-0.13)	
4th-	EBV	-0.07 (-0.29-0.09)*	0.901	-0.01 (-0.22-0.11)	0.433	0.06 (-0.10-0.20)	0.431	-0.06 (-0.16-0.11)	0.450
	IBV	-0.08 (-0.26-0.06)		0.06 (-0.16-0.18)		0.01 (-0.11-0.11)		-0.02 (-0.11-0.08)	
ΔWT%									
3rd-	EBV	-5.00 (-12.00-1.00)**	0.043	-4.00 (-7.75-4.25)	0.874	-2.00 (-8.50-3.50)	0.243	0.50 (-5.00-6.00)	0.151
	IBV	-0.50 (-6.75-8.00)		-2.00 (-9.00-2.00)		-6.50 (-12.25--2.75)**		-4.50 (-9.75-1.75)	
4th-	EBV	-1.00 (-4.50-2.50)	0.782	0.00 (-3.00-3.00)	0.990	1.00 (-7.50-10.00)	0.537	2.00 (-2.00-8.00)	0.327
	IBV	-1.00 (-3.00-2.00)		0.00 (-2.00-3.00)		0.00 (-7.00-2.00)		-1.00 (-3.00-7.00)	
ΔLA (mm²)									
3rd-	EBV	1.60 (-1.50-9.90)	0.005	1.85 (-1.40-5.15)	0.653	2.50 (-0.20-22.75)	0.391	-3.70 (-5.63-3.20)	0.292
	IBV	-3.00 (-10.55-0.58)*		1.50 (-3.95-6.95)		-0.05 (-1.33-10.40)		-1.15 (-3.93-9.28)	
4th-	EBV	-0.50 (-2.20-1.30)	0.325	-0.80 (-2.40-3.10)	0.543	-1.80 (-12.20-5.05)	0.290	-7.00 (-10.80-3.10)	0.122
	IBV	-1.05 (-4.23-0.65)		0.75 (-1.85-2.80)		0.30 (-1.00-3.80)		0.00 (-3.00-2.50)	
ΔWA (mm²)									
3rd-	EBV	-2.40 (-10.90-2.80)	0.854	-0.30 (-10.85-6.88)	0.475	1.80 (-5.15-7.55)	0.327	-1.40 (-5.20-6.03)	0.770
	IBV	-2.45 (-4.95-0.35)*		-3.50 (-7.00-0.60)		-4.55 (-7.50-3.00)		-1.75 (-10.60-5.75)	
4th-	EBV	-1.00 (-5.15-2.00)	0.863	-0.20 (-3.80-4.10)	0.768	0.20 (-2.80-4.60)	0.961	-6.40 (-8.50-1.80)	0.118
	IBV	-1.40 (-4.35-1.03)		0.45 (-3.25-3.50)		0.30 (-5.00-3.00)		-0.90 (-3.70-3.20)	
ΔWA%									
3rd-	EBV	-9.00 (-17.00--1.00)**	0.037	-5.00 (-12.00-5.50)	0.741	-5.00 (-13.50-5.00)	0.390	1.00 (-7.50-10.00)	0.135
	IBV	-1.00 (-9.75-11.25)		-3.00 (-12.00-3.50)		-8.50 (-15.00--2.75)**		-5.50 (-13.75-2.25)	
4th-	EBV	0.00 (-5.00-3.00)	0.867	0.00 (-4.00-3.00)	0.965	0.00 (-10.50-13.50)	0.657	2.00 (-4.00-12.00)	0.346
	IBV	0.00 (-4.25-3.00)		0.00 (-3.00-5.00)		0.00 (-9.00-3.00)		-1.00 (-4.00-8.00)	

Data are presented as median (Q25 - Q75). * indicates P<0.05; ** indicates P<0.01. WT=wall thickness; WT%=percentage of wall thickness; LA=intraluminal area; WA=wall area; WA%= percentage of wall area.

Table S4 Subgroup analysis: changes in WT% and WA% of contralateral airway

Variables		1-month	3-month	6-month	12-month
Δ WT%					
2nd	Responder	-1.00 (-2.50-2.00)	-1.50 (-8.25-4.25)	-2.00 (-14.75-6.25)	2.00 (-4.25-3.00)
	Non-Responder	1.00 (-3.00-7.00)	0.00 (-5.00-5.00)	-1.00 (-3.00-1.00)	0.00 (-4.50-2.00)
3rd	Responder	0.00 (-4.50-6.00)	-1.00 (-3.25-3.00)	-1.00 (-7.00-3.00)	4.50 (-4.75-8.50)
	Non-Responder	1.00 (-6.00-9.50)	2.00 (-2.75-9.00)	-2.00 (-6.50-7.50)	1.00 (-5.00-8.00)
4th	Responder	0.00 (-4.75-4.00)	0.00 (-3.00-4.00)	-2.50 (-7.00--1.00)**	1.00 (-4.00-5.00)
	Non-Responder	0.00 (-3.00-4.25)	1.00 (-2.00-3.75)	0.00 (-4.00-2.00)	0.00 (-3.50-3.00)
Δ WA%					
2nd	Responder	-3.00 (-5.00-2.50)	-3.50 (-12.50-6.25)	-3.50 (-23.00-9.75)	2.50 (-6.75-5.75)
	Non-Responder	2.00 (-3.00-10.00)	-1.00 (-5.00-7.00)	-1.00 (-5.00-1.00)	-0.50 (-6.50-2.75)
3rd	Responder	0.00 (-6.50-8.50)	-0.50 (-4.25-5.00)	-1.00 (-9.00-4.00)	4.50 (-7.00-13.25)
	Non-Responder	2.00 (-8.50-13.50)	2.00 (-4.00-12.75)	-2.50 (-10.00-7.00)	0.00 (-6.00-11.00)
4th	Responder	0.00 (-6.75-4.75)	-1.00 (-5.00-4.00)	-3.50 (-10.75--1.25)**	2.00 (-6.00-6.00)
	Non-Responder	-0.50 (-4.25-6.00)	1.00 (-2.75-5.00)	-1.00 (-5.00-3.00)	0.00 (-3.50-3.50)

Data are presented as median (Q1, Q3); ** indicate $P < 0.01$; WT%=percentage of wall thickness; WA%= percentage of wall area.