

**Supplementary Table 1.** Endotypic traits before and after surgery among responders and non-responders following surgery, excluding participants who underwent only nasal surgery

Variable	Responders (n= 10)			Non-responders (n= 12)			P-value <sup>b)</sup>
	Pre-surgery	Post-surgery	P-value <sup>a)</sup>	Pre-surgery	Post-surgery	P-value <sup>a)</sup>	
REM sleep							
AHI	47.58±23.77	19.54±24.89	0.065	33.28±17.05	26.05±20.23	0.622	0.057
Arousal threshold	176.04±46.66	164.38±51.46	0.570	159.83±45.58	175.34±47.17	0.313	0.420
V <sub>passive</sub>	34.99±25.28	59.39±26.42	0.020	54.54±30.95	45.43±24.63	0.383	0.030
Loop gain	0.50±0.22	0.50±0.14	0.910	0.42±0.10	0.52±0.12	0.039	0.384
Compensation	1.75±24.12	3.09±15.40	0.910	-0.27±11.55	1.83±11.99	0.844	0.942
NREM sleep							
AHI	35.06±32.54	19.54±24.89	0.002	22.42±12.27	35.94±26.72	0.677	0.015
Arousal threshold	156.00±49.11	132.58±28.89	0.002	140.09±26.17	147.08±34.13	0.677	0.092
V <sub>passive</sub>	57.07±25.79	71.14±20.65	0.037	69.53±12.49	63.46±24.56	0.733	0.050
Loop gain	0.56±0.20	0.47±0.12	0.432	0.48±0.12	0.47±0.15	0.850	0.358
Compensation	-7.20±17.70	-5.09±15.77	1.000	-5.84±23.16	-12.89±18.25	0.077	0.163

Values are presented as mean±standard deviation.

REM, rapid eye movement; AHI, apnea-hypopnea index; V<sub>passive</sub>, ventilation at eupneic drive; NREM, non-rapid eye movement.

<sup>a)</sup>Pre-surgery and post-surgery endotypic traits were compared between groups (responders vs. non-responders) using Wilcoxon signed-rank tests. <sup>b)</sup>The P-value for interaction between surgical state (preoperative and postoperative) and group was generated using generalized linear mixed models.