Supplementary table S1. Anthropometric characteristics and sleep parameters in the polysomnographic study among patients who received CPAP titration study and those who did not (N = 519).

	CPAP titration study (N = 225)		No CPAP titration study (N = 294)		p
	Median	(IQR)	Median	(IQR)	
Anthropometric characteristics					
Age (years)	43.0	(35.0–52.0)	40.0	(34.0–52.0)	0.13
Neck circumference (cm)	39.8	(37.5–41.8)	39.5	(37.4–41.5)	0.39
BMI (kg/m^2)	30.3	(27.6–33.2)	28.8	(26.1–33.0)	0.03
OSA severity and endotypes					
AHI (events/hour)	43.9	(27.4–65.7)	33.3	(21.2–59.6)	0.002
Arousal threshold (% eupnea)	143.6	(126.7–185.1)	134.5	(118.7–165.5)	0.003
Loop gain	0.59	(0.47–0.71)	0.54	(0.44–0.68)	0.01
Collapsibility (% eupnea)	16.6	(7.0–46.7)	13.8	(6.5–31.9)	0.06
Upper airway gain	-0.09	(-0.44-0.20)	-0.04	(-0.43–0.34)	0.54

AHI = apnea–hypopnea index; OSA = obstructive sleep apnea; IQR = interquartile range.

Supplementary table S2. Respiratory index in PSG study and CPAP titration studies, and mean CPAP optimal pressure during titration studies (N = 225).

		Arousal threshold		Collapsibility		Loop gain		Upper airway gain	
		High	Low	High	Low	High	Low	High	Low
AHI (h^{-1})	PSG	$60.7^{\dagger}$	$34.9^{\dagger}$	$61.8^{\dagger}$	$33.8^{\dagger}$	$57.0^{\dagger}$	$38.6^{\dagger}$	50.2	45.5
	CPAP	5.5	4.3	5.5	4.3	5.4	4.4	5.4	4.4
Obstructive apnea index (h^{-1})	PSG	$44.2^{\dagger}$	$14.0^{\dagger}$	$42.7^{\dagger}$	$15.5^{\dagger}$	$37.3^{\dagger}$	$21.0^{\dagger}$	31.7	19.5
	CPAP	1.2	0.5	1.1	0.6	1.0	0.7	1.0	1.3
Mixed apnea index (h^{-1})	PSG	$3.6^{\dagger}$	$0.6^{\dagger}$	$3.5^{\dagger}$	$0.7^{\dagger}$	$3.4^{\dagger}$	$0.8^{\dagger}$	2.9	2.9
	CPAP	0.2	0.03	0.2	0.04	0.1	0.1	0.1	0.2
Central apnea index (h^{-1})	PSG	0.2	0.5	0.3	0.3	0.3	0.3	0.4	0.2
	CPAP	0.9	0.4	1.0	0.3	0.7	0.7	0.9	0.5
Hypopnea index (h^{-1})	PSG	12.7	19.8	3.3	17.3	16.1	16.5	15.2	17.3
	CPAP	4.0	3.4	4.1	3.3	3.6	3.8	4.1	3.2
Optimal pressure (cmH_2O)	CPAP	9.5	8.7	9.3*	8.9*	9.7	8.6	9.5	8.7

AHI = apnea-hypopnea index; PSG = polysomnography; CPAP = continuous positive airway pressure.

$\dagger P < 0.05$ of endotype effect in linear mixed regression analysis, and time effect was significant for all respiratory indices.

*$p<0.05$ in linear regression analysis, adjustment for age, sex, body-mass index, neck circumference, AHI, and all other endotypic groups.

Supplementary table S3. Anthropometric characteristics and sleep parameter in polysomnographic study among patients who used CPAP and those did not (N = 225).

	CPAP treatment (N = 85)		Other treatment (N = 140)		
	Median	(IQR)	Median	(IQR)	p
Anthropometric characteristics					
Age (years)	44.0	(37.0–53.0)	42.0	(34.0–51.0)	0.08
Waist circumference (cm)	99.5	(93.0–107.0)	99.0	(93.0–105.0)	0.66
Neck circumference (cm)	39.5	(37.0–41.3)	39.5	(38.0–42.2)	0.41
BMI (kg/m^2)	30.3	(27.8–33.5)	30.2	(26.9–33.1)	0.79
OSA severity and endotypes					
AHI (events/hour)	48.4	(27.3–67.0)	38.5	(25.8–62.4)	0.23
Arousal threshold (% eupnea)	148.6	(127.9–200.6)	142.4	(125.8–183.0)	0.57
Loop gain	0.59	(0.51–0.75)	0.58	(0.47–0.67)	0.08
Collapsibility (% eupnea)	19.2	(9.8–48.0)	13.5	(6.0–45.1)	0.09
Upper airway gain	-0.04	(-0.34-0.20)	-0.12	(-0.46–0.22)	0.53
Sleep architecture (%)					
Stage 1 sleep	39.8	(28.3–60.4)	38.0	(22.5–54.9)	0.16
Stage 2 sleep	37.6	(20.6–50.6)	42.9	(28.0–53.2)	0.14
Slow-wave sleep	0	(0–0.3)	0	(0–0.7)	0.22
REM sleep	18.4	(12.7–22.7)	18.2	(14.0–22.6)	0.78
Sleep efficiency	85.0	(77.0–92.3)	85.3	(78.2–90.8)	0.71

AHI = apnea–hypopnea index; OSA = obstructive sleep apnea; REM = rapid eye movement; IQR = interquartile range.