

Appendix 1. Affiliations of the local ethics committees

Site	Institution
01	Peking University Third Hospital
03	Chinese Academy of Medical Sciences and Peking Union Medical College
05	Beijing Chaoyang Hospital
06	Beijing Tongren Hospital
07	Shanghai Ruijin Hospital
08	Shanghai Huadong Hospital
09	Shanghai Pulmonary Hospital
10	Shanghai Fifth People's Hospital
11	Shanghai Songjiang District Central Hospital
12	Shanghai Minhang District Central Hospital
13	Shanghai Fengxian District Central Hospital
14	First Affiliated Hospital of Guangzhou Medical University
15	Guangzhou First People's Hospital
16	Jiangsu Province Hospital
17	General Hospital of Nanjing Military Region
18	Shandong Provincial Hospital
20	Tianjin Medical University General Hospital
23	General Hospital of Shenyang Military Region
24	First Hospital of Jilin University
25	Second Hospital of Jilin University
26	Baogang Hospital, Third Affiliated Hospital of Inner Mongolia Medical College, Third School of Clinical Medicine, Inner Mongolia regional medical center
27	The Affiliated Hospital of Inner Mongolia Medical University
28	Hebei Provincial People's Hospital
29	Second Hospital of Hebei Medical University
30	China National Petroleum Corporation Central Hospital
31	Shanxi Provincial People's Hospital
32	Shanxi Dayi Hospital
33	First Hospital of Shanxi Medical University
34	Yuncheng Central Hospital of Shanxi Province
35	Henan Provincial People's Hospital
37	Zhengzhou People's Hospital
38	First Affiliated Hospital of Anhui Medical University
39	Fujian Provincial Hospital

40	Jiangxi Provincial People's Hospital
43	Hubei Provincial People's Hospital
44	Xiangya Hospital of Central South University
45	The Second Xiangya Hospital
46	West China Hospital
48	Southwest Hospital, The First Affiliated Hospital of the Third Military Medical University
50	Xinqiao Hospital of the Third Military Medical University
52	Shaanxi Provincial People's Hospital
53	Tangdu Hospital
54	General Hospital of Ningxia Medical University

Appendix 2. List of investigators and their affiliations

Name	Institution
Professor Wanzhen Yao	Peking University Third Hospital
Professor Baiqiang Cai	Chinese Academy of Medical Sciences and Peking Union Medical College
Professor Kewu Huang	Beijing Chaoyang Hospital
Professor Yongchang Sun	Beijing Tongren Hospital
Professor Guochao Shi	Shanghai Ruijin Hospital
Professor Huili Zhu	Shanghai Huadong Hospital
Professor Jinfu Xu	Shanghai Pulmonary Hospital
Professor Zhijun Jie	Shanghai Fifth People's Hospital
Professor Fan Li	Shanghai Songjiang District Central Hospital
Professor Xiwen Gao	Shanghai Minhang District Central Hospital
Professor Liwen Lu	Shanghai Fengxian District Central Hospital
Professor Jinping Zheng	National Clinical Research Center, Guangzhou Institute of Respiratory Health, First Affiliated Hospital of Guangzhou Medical University
Professor Ziwen Zhao	Quangzhou First People's Hospital
Professor Mao Huang	Jiangsu Province Hospital
Professor Yi Shi	General Hospital of Nanjing Military Region
Professor Shujuan Jiang	Shandong Provincial Hospital
Professor Jie Cao	Tianjin Medical University General Hospital
Professor Zhuang Ma	General Hospital of Shenyang Military Region
Professor Liping Peng	First Hospital of Jilin University
Professor Jie Zhang	Second Hospital of Jilin University
Professor Jingping Yang	Baogang Hospital, Third Affiliated Hospital of Inner Mongolia Medical College, Third School of Clinical Medicine, Inner Mongolia regional medical center
Professor Xiuhua Fu	The Affiliated Hospital of Inner Mongolia Medical University
Professor Xiaowen Han	Hebei Provincial People's Hospital
Professor Xixin Yan	Second Hospital of Hebei Medical University
Professor Zheng Liu	China National Petroleum Corporation Central Hospital
Professor Aizhen Zhang	Shanxi Provincial People's Hospital
Professor Jianying Xu	Shanxi Dayi Hospital
Professor Xiaoyun Hu	First Hospital of Shanxi Medical University
Professor Hongxia Meng	Yuncheng Central Hospital of Shanxi Province

Professor Lijun Ma	Henan Provincial People's Hospital
Professor Jinguang Jia	Zhengzhou People's Hospital
Professor Gengyun Sun	First Affiliated Hospital of Anhui Medical University
Professor Chen Yusheng	Fujian Provincial Hospital
Professor Zuke Xiao	Jiangxi Provincial People's Hospital
Professor Hu Ke	Hubei Provincial People's Hospital
Professor Bailing Luo	Xiangya Hospital of Central South University
Professor Ping Chen	The Second Xiangya Hospital
Professor Xuemei Ou	West China Hospital
Professor Xiangdong Zhou	Southwest Hospital, The First Affiliated Hospital of the Third Military Medical University
Professor Wei Yao	Xinqiao Hospital of the Third Military Medical University
Professor Li Sun	Shaanxi Provincial People's Hospital
Professor Jin Faguang	Tangdu Hospital
Professor Xiwei Zheng	General Hospital of Ningxia Medical University

Supplemental Table 1. Demographic characteristics of AECOPD patients after propensity score matching

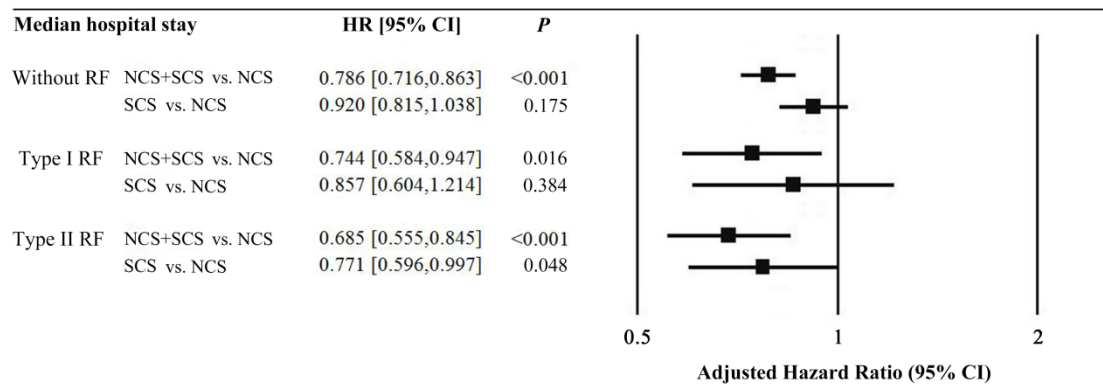
Variables	NCS (N=598)	SCS (N=417)	NCS+SCS (N=1044)	P
Age (years)	72.8±9.86	72.3±9.96	73.2±8.94	0.223 ^a
Sex				0.380 ^b
Male	485 (81.1%)	351 (84.2%)	849 (81.3%)	
Female	113 (18.9%)	66 (15.8%)	195 (18.7%)	
BMI (kg/m ²)	21.8±3.10	21.6±2.97	21.8±2.63	0.258 ^a
Duration of COPD (years)	8.9±7.91	10.0±7.93	9.8±8.72	0.078 ^a
Duration of AECOPD (days)	16.5±22.18	16.0±17.05	14.6±20.46	0.141 ^a
Pneumonia at enrollment	137 (22.9%)	96 (23.0%)	271 (26.0%)	0.285 ^b
First monitor index				
First PaO ₂ (mmHg)	77.1±26.88	80.7±31.04	81.0±30.83	0.030 ^a
First PaCO ₂ (mmHg)	48.6±15.43	51.2±16.83	51.6±16.61	0.001 ^a
First SaO ₂ (%)	92.2±7.78	92.3±8.25	92.8±7.52	0.266 ^a
First pH	7.4±0.06	7.4±0.06	7.4±0.06	0.461 ^a
Smoking				
Smoking status				0.384 ^b
Never smoked	165 (27.6%)	116 (27.8%)	261 (25.0%)	
Current smokers	153 (25.6%)	89 (21.3%)	268 (25.7%)	
Former smokers	277 (46.3%)	203 (48.7%)	500 (47.9%)	
Missing data	3 (0.5%)	9 (2.2%)	15 (1.4%)	
Smoking duration (years)	35.5±12.46	33.7±12.12	35.0±12.52	0.170 ^a
Smoking amount (packets/year)	73.4±118.85	72.0±139.53	56.8±70.26	0.214 ^a
Living environment				
Long-term passive smoking	53 (8.9%)	32 (7.7%)	82 (7.9%)	0.668 ^b
Long-term exposure to occupational dust and gas fumes	42 (7.0%)	21 (5.0%)	51 (4.9%)	0.145 ^b
Air pollution	224 (37.5%)	147 (35.3%)	357 (34.2%)	0.314 ^b
Damp, cold or foggy	58 (9.7%)	98 (23.5%)	108 (10.3%)	<0.001 ^b
None of the above	288 (48.2%)	190 (45.6%)	541 (51.8%)	0.066 ^b

Data are summarized as mean±standard deviation for continuous variables and n (percentage) for categorical data.

a one-way analysis of variance.

b Chi-square test.

NCS, nebulized corticosteroids; SCS, systemic corticosteroids; AECOPD, acute exacerbation of chronic obstructive pulmonary disease; BMI, body mass index.



Supplemental Figure 1. Sub-distribution hazard regression for competing risk of death (competing event) and discharge (study event) from the hospital in remission

NCS was used as the reference; adjusted hazard ratio was adjusted by age, sex, height, weight, COPD history, AECOPD duration for this time, PaO₂ at first time, PaCO₂ at first time, SaO₂ at first time and PH at first time. The smaller the HR was, the larger the hospital stay was. NCS, nebulized corticosteroids (budesonid); SCS, systemic corticosteroids; NCS+SCS, combination of NCS and SCS therapies; RF, respiratory failure; HR, hazard ratio.