Supplement:

Table 1

Gaussian distribution for the concentration of cytokines between severities of AECOPD

Variables		Central tendency and discrete tendency					
		Std. dev	Median	Range	P_5-P_{95}	*Sk*	*Ku*
IL-2							
	A	204.43	868.57	399.83	410.08-1425.73	1.023	
	B	216.05	1023.90	834.03	934.40-1105.33	0.551	-0.373
	C	212.37	1098.78	966.18	1070.77-1173.58	0.057	-0.518
	D	67.87	1068.57	205.83	1008.75-1134.28	0.430	0.276
IFN-γ							
	A	32.59	1020.24	64.9	935.79-1097.72	-0.475	
	B	209.17	1074.43	823.34	970.17-1135.66	-0.008	-0.542
	C	198.22	1101.46	957.94	1026.69-1121.92	-0.061	-0.258
	D	285.66	1005.21	834.96	812.40-1340.80	0.617	0.146
IL-4							
	A	61.23	382.00	119.83	244.49-548.72	1.01	
	B	42.89	358.00	217.87	343.20-377.13	0.448	0.872
	C	52.96	350.59	324.53	339.97-365.81	-0.476	2.007
	D	24.51	330.18	74.67	303.51-348.86	-0.518	0.202
IL-10							
	A	35.48	262.36	70.47	169.45-345.72	-0.595	
	B	72.17	260.16	250.40	239.99-297.09	0.574	-0.643
	C	62.12	279.66	305.19	263.85-293.69	0.094	0.042
	D	75.80	224.67	204.53	160.97-301.17	0.291	-1.060
IL-17							
	A	210.90	304.74	400.71	-143.12-904.70	1.412	
	B	77.20	403.75	304.50	384.33-445.40	-0.332	-0.035
	C	81.87	417.78	349.10	379.05-418.38	-0.274	-0.398
	D	80.33	438.30	250.09	370.28-518.87	0.426	0.533
IgE							
	A	18.65	301.92	34.89	247.96-340.64	-1.532	
	B	20.74	346.23	70.47	333.80-350.20	0.082	-1.049
	C	42.38	440.27	159.11	431.68-452.04	0.608	-0.309
	D	20.43	545.92	56.53	536.35-574.14	1.716	2.988

A: less symptoms and low risk; B: more symptoms and low risk; C: less symptoms and high risk; D: more symptoms and high risk. (As shown in the figure 1).

Table 2

Comparison of cytokines between different grades of AECOPD

Variables	Concn. Mean	Mean Rank	χ^2	df	P

	(pg/mL)				
IL-2					
A	917.91	30.67	6.082	3	>0.05
B	1019.86	43.43			
C	1122.18	57.93			
D	1071.52	51.57			
IFN-γ					
A	1016.76	41.33	0.764	3	>0.05
B	1052.92	51.41			
C	1074.30	54.97			
D	1076.60	52.29			
IL-4					
A	396.61	73.33	5.768	3	>0.05
B	360.16	55.11			
C	352.89	52.93			
D	326.19	29.36			
IL-10					
A	257.58	46.33	3.288	3	>0.05
B	268.54	50.06			
C	278.78	56.82			
D	231.07	37.14			
IL-17					
A	380.79	40.67	2.390	3	>0.05
B	414.86	57.41			
C	398.72	51.30			
D	444.57	65.57			
IgE					
A	294.30	2.00	74.281	3	<0.001
B	342.00	17.00			
C	441.86	65.00			
D	555.24	103.00			

A: less symptoms and low risk; B: more symptoms and low risk; C: less symptoms and high risk; D: more symptoms and high risk. (As shown in the figure 1).