Additional Table 1: Seasonal comparison of age, sex, and hematological biomarkers between the groups on admission

	Spring	Summer	Autumn	*P*-value
Non-ICU				
Sex				
Male	251 (61.1)	492 (49.5)	1125 (48.0)	
Female	160 (38.9)	501 (50.5)	1217 (52.0)	
Age (yr)	48±19	53±19*	58±18*#	**0.00**
	46(19-96)	54(18-94)	60(18-102)	
BASO (×10^3/μL)	0.04±0.02	0.03±0.02*	0.03±0.02*	**0.00**
	0.04(0.01-0.17)	0.02(0.01-0.13)	0.02(0.01-0.38)	
EOS (×10^3/μL)	0.17±0.14	0.12±0.20*	0.09±0.10*#	**0.00**
	0.13(0.01-1.03)	0.07(0.01-4.41)	0.06(0.01-0.97)	
HCT (%)	41.38±4.81	40.44±5.19*	38.62±5.04*#	**0.00**
	41.80(17.20-51.70)	40.60(22.90-53.80)	38.60(12.00-56.30)	
HGB (g/L)	13.75±1.83	13.34±1.94*	13.13±1.87*#	**0.00**
	13.90(5.50-17.80)	13.40(7.20-19.00)	13.10(4.00-18.60)	
LYM (×10^3/μL)	2.05±0.87	1.67±0.74*	1.51±1.71*#	**0.00**
	1.98(0.49-11.91)	1.57(0.09-7.55)	1.33(0.08-53.96)	
MCH (mg)	28.49±2.31	28.26±2.48	28.18±2.23*	**0.00**
	28.80(18.40-37.70)	28.70(17.70-41.90)	28.50(15.60-39.90)	
MCHC (g/dL)	33.18±1.39	32.93±1.38*	33.95±1.51*#	**0.00**
	33.30(28.30-36.70)	33.00(27.10-37.10)	34.10(3.60-38.40)	
MCV (fL)	85.80±5.37	85.74±5.93	82.92±5.23*#	**0.00**
	85.90(61.00-117.80)	86.20(58.20-116.20)	83.20(55.80-116.80)	
MONO (×10^3/μL)	0.61±0.29	0.50±0.22*	0.28±0.53*#	**0.00**
	0.57(0.13-4.20)	0.47(0.03-2.19)	0.50(0.05-6.29)	
MPV (fL)	10.27±0.95	10.38±0.90	10.47±0.93*#	**0.00**
	10.10(8.30-13.60)	10.30(8.10-15.00)	10.40(8.10-14.20)	
NEU (×10^3/μL)	4.23±1.95	3.69±2.15*	4.80±2.84#	**0.00**
	3.82(0.68-15.87)	3.23(0.49-26.73)	4.04(0.37-20.00)	
P.LCR (%)	26.96±7.54	27.94±7.22	28.92±7.39*#	**0.00**
	26.10(11.90-51.60)	27.30(11.10-61.30)	28.20(9.50-56.10)	
PCT (%)	0.25±0.08	0.22±0.07*	0.24±0.08#	**0.00**
	0.23(0.06-0.63)	0.22(0.06-0.55)	0.23(0.01-1.22)	
PDW (fL)	11.78±2.21	11.90±2.12	12.06±2.19*	**0.01**
	11.40(8.00-22.30)	11.60(8.20-23.50)	11.70(7.60-25.30)	
PLT (×10^3/μL)	241.14±78.47	218.88±76.78*	231.24±87.37*#	**0.00**

	226.00(53.00-652.00)	208.00(49.00-603.00)	221.00(5.00-1199.00)	
RBC ($\times10^6/\mu L$)	4.84±0.58	4.73±0.62*	4.67±0.61*#	**0.00***
	4.85(1.46-6.16)	4.75(2.22-7.04)	4.65(1.24-7.22)	
RDW (%)	13.37±1.74	13.55±1.77	13.52±1.60*	**0.00**
	12.90(11.20-24.20)	13.00(11.20-24.20)	13.20(11.00-27.00)	
WBC ($\times10^3/\mu L$)				
Male	7.2±2.2	6.4±2.5*	7.5±3.9#	**0.00**
	6.8(2.8-18.9)	6.1(1.0-19.0)	6.8(0.4-60.2)	
Female	6.9±2.1	5.5±2.5*	6.3±2.5*#	**0.00**
	6.8(2.9-16.8)	5.2(1.3-36.6)	5.9(1.4-24.0)	
NLR	2.49±1.94	2.80±3.41	4.95±6.20*#	**0.00**
	1.93(0.06-17.56)	1.92(0.29-74.67)	2.80(0.07-93.08)	
PLR	134.15±71.23	154.68±96.67*	210.52±164.30*#	**0.00**
	116.56(15.79-708.11)	130.77(18.22-1322.22)	156.83(2.74-2287.50)	
dNLR	1.65±1.00	1.92±2.98	2.97±2.78*#	**0.00**
	1.39(0.04-7.82)	1.40(0.26-84.00)	1.94(0.07-33.09)	
LMR	3.66±1.51	3.74±1.77	3.17±2.18*#	**0.00**
	3.55(0.73-12.62)	3.55(0.72-12.90)	2.84(0.12-47.69)	
ICU				
Sex				
Male n (%)	12 (63.2)	34 (64.2)	88 (58.3)	
Female n (%)	7 (36.8)	19 (35.8)	63 (41.7)	
Age (yr)	73±12	73±17	72±11	0.27
	72(47-88)	76(20-96)	73(40-96)	
BASO ($\times10^3/\mu L$)	0.03±0.02	0.03±0.02	0.04±0.04	0.71
	0.03(0.01-0.07)	0.03(0.01-0.07)	0.02(0.01-0.23)	
EOS ($\times10^3/\mu L$)	0.06±0.09	0.11±0.15	0.08±0.11	0.32
	0.03(0.01-0.34)	0.07(0.01-0.88)	0.04(0.01-0.58)	
HCT (%)	38.52±8.19	36.47±7.01	36.73±6.12	0.47
	41.30(23.70-52.50)	36.50(22.70-56.10)	36.50(18.30-56.00)	
HGB (g/L)	12.24±2.64	11.63±2.51	12.18±2.08	0.29
	12.20(8.20-16.40)	11.30(7.20-16.80)	12.00(5.70-18.80)	
LYM ($\times10^3/\mu L$)	0.95±0.51	1.06±0.78	2.33±0.76	0.25
	0.79(0.40-2.38)	0.89(0.11-4.59)	0.70(0.15-58.87)	
MCH (mg)	27.71±2.20	27.55±3.07	28.30±2.23	0.38
	28.10(21.00-30.40)	28.20(18.10-32.90)	28.50(17.90-33.70)	
MCHC (g/dL)	31.80±1.60	31.79±1.91	33.16±1.79*#	**0.00**

	31.90(28.40-34.60)	32.20(26.50-35.40)	33.40(27.70-39.20)	
MCV (fL)	87.20±6.74	86.62±8.24	85.40±6.41	0.19
	89.60(71.20-97.40)	86.80(67.50-106.00)	85.90(62.10-108.60)	
MONO ($\times10^3/\mu L$)	0.85±0.52	0.56±0.34	0.47±0.32*	**0.00**
	0.78(0.12-2.00)	0.50(0.08-1.30)	0.40(0.05-2.81)	
MPV (fL)	10.81±0.98	10.72±1.12	11.13±1.12	0.14
	10.70(8.60-12.30)	10.70(8.30-13.80)	10.90(8.80-14.30)	
NEU ($\times10^3/\mu L$)	10.78±5.80	8.85±7.06	10.29±5.37#	**0.02**
	10.68(3.52-19.91)	7.09(0.10-29.16)	9.29(1.35-31.26)	
P.LCR (%)	31.25±7.78	30.42±8.79	33.79±8.58	0.13
	31.50(13.90-43.80)	29.90(11.00-52.70)	32.65(15.60-59.10)	
PCT (%)	0.25±0.10	0.23±0.08	0.26±0.10	0.19
	0.23(0.10-0.49)	0.22(0.12-0.49)	0.25(0.09-0.59)	
PDW (fL)	13.00±2.28	12.55±2.91	13.46±2.72	0.08
	13.00(8.40-17.10)	12.00(7.90-23.40)	12.90(8.30-23.00)	
PLT ($\times10^3/\mu L$)	235.32±91.20	212.92±86.12	235.74±102.75	0.32
	237.00(83.00-429.00)	194.00(30.00-430.00)	220.00(12.00-543.00)	
RBC ($\times10^6/\mu L$)	4.41±0.84	4.23±0.79	4.33±0.79	0.73
	4.62(2.96-5.68)	4.25(2.64-5.41)	4.28(2.28-6.41)	
RDW (%)	15.53±1.89	15.79±3.21	14.80±2.09	0.13
	15.40(11.90-18.30)	14.50(12.30-25.20)	14.20(11.70-21.70)	
WBC ($\times10^3/\mu L$)				
Male	13.5±6.6	11.9±7.6	13.5±9.9	0.25
	14.2(4.2-22.5)	8.8(3.3-30.6)	10.9(2.5-68.3)	
Female	11.1±4.7	8.1±6.4	12.7±8.7#	**0.03**
	9.8(6.1-16.8)	6.9(6.0-29.0)	10.1(2.5-56.5)	
NLR	15.13±11.96	15.80±35.91	17.16±16.70#	**0.01**
	9.67(2.33-45.08)	7.00(0.26-255.73)	12.77(0.12-116.00)	
PLR	309.33±217.25	323.67±420.47	377.30±289.17#	**0.04**
	243.18(86.55-1025.00)	219.61(73.86-3054.55)	315.38(1.56-1724.14)	
dNLR	6.33±4.32	6.22±6.08	8.55±5.71#	**0.00**
	5.18(1.75-18.76)	4.31(0.20-36.53)	7.64(0.12-26.93)	
LMR	1.85±1.68	2.30±1.61	8.33±3.531.85(0.12-341.09)	0.17
	1.18(0.25-6.10)	2.09(0.19-9.98)		

Note: Data in sex are expressed as number (percentage). Other data are expressed as mean ± SD and median (minimum-maximum). The gender was analyzed by the chi-square test and the other data were analyzed by Mann-Whitney *U* test.*$P < 0.05$, *vs.* spring; #$P < 0.05$, *vs.* summer. BASO: basophil; d-NLR: derived neutrophil to lymphocyte ratio; EOS: eosinophil; HCT: hematocrit; HGB: hemoglobin; LMR: lymphocyte to monocyte ratio; LYM: lymphocyte; MCH: mean corpuscular hemoglobin; MCHC: mean corpuscular hemoglobin concentration; MCV:

mean corpuscular volume; MONO: monocyte; MPV*:* mean platelet volume; NEU: neutrophil; NLR: neutrophil to lymphocyte ratio; PCT: plateletcrit; PDW: platelet distribution width; P-LRC: platelet large cell ratio; PLR: platelet to lymphocyte ratio; PLT: platelet; RBC: red blood cells; RDW: red cell distribution width; WBC: white blood cell.

Additional Table 2: Comparison of sex and hematological biomarkers between the groups on admission

Characteristics	**Reference range**	**Non-ICU**				**ICU**				***P*-**
		Decreased	**Normal**	**Increased**	**Total**	**Decreased**	**Normal**	**Increased**	**Total**	**value**
Total					3746 (100)				223 (100)	
Male					1868 (49.9)				134 (60.1)	
Female					1878 (50.1)				89 (39.9)	
BASO ($\times10^3/\mu L$)	0.01-0.07	NA	0.02 (0.01-0.04)	0.09 (0.08-0.10)	0.02 (0.01-0.04)	NA	0.02 (0.01-0.04)	0.14 (0.10-0.17)	0.02 (0.01-0.04)	0.21
			3380/3593 (94.1)	161/3593 (4.5)	3593/3805 (94.4)		197/212 (92.9)	12/212 (5.7)	212/3805 (5.6)	
				1.29 (fold)				2.0 (fold)		
EOS ($\times10^3/\mu L$)		NA	0.07 (0.03-0.14)	0.48 (0.43-0.60)	0.07 (0.03-0.15)	NA	0.04 (0.02-0.11)	0.52 (0.46-0.73)	0.04 (0.02-0.12)	**0.00**
	0.01-0.4		2818/3131 (90.0)	89/3131 (2.8)	3131/3304 (94.8)		143/173 (82.7)	4/173 (2.3)	173/3304 (5.2)	
				1.2 (fold)				1.3 (fold)		
HCT (%)	36-48	33.60 (31.5-34.9)	40.8 (38.5-43.6)	49.6 (48.80-51.60)	39.4 (36.0-43.0)	32.10 (29.0-34.60)	40.0 (38.0-42.50)	52.4 (49.0-53.90)	36.50 (32.50-40.50)	**0.00**
		929/3745 (24.8)	2678/3745 (71.5)	138/3745 (3.7)	3745/3968 (94.4)	101/223 (45.3)	111/223 (49.8)	11/223 (4.9)	223/3968 (5.6)	
		0.93 (fold)		1.03 (fold)		0.89 (fold)		1.09 (fold)		
HGB (g/L)		12.1 (11.2-12.8)	14.6 (14.0-15.5)	18.0 (17.8-18.2)	13.3 (12.0-14.5)	11.3 (10.1-12.2)	14.45 (14.1-15.2)	18.8 (18.8-18.8)	11.90 (10.70-13.60)	**0.00**
	13.5-17.5	2007/3745 (53.6)	1709/3745 (45.6)	29/3745 (0.8)	3745/3968 (94.4)	164/223 (73.5)	58/223 (26.0)	1/223 (0.4)	223/3968 (5.6)	
		0.90 (fold)		1.03 (fold)		0.84 (fold)		1.07 (fold)		
LYM ($\times10^3/\mu L$)		0.74 (0.57-0.88)	1.71 (1.34-2.18)	10.26 (7.22-17.97)	1.47 (1.01-2.01)	0.59 (0.41-0.73)	1.35 (1.22-1.69)	19.3 (9.71-37.52)	0.73 (0.48-1.22)	**0.00**
	1-5	909/3745 (24.3)	2822/3745 (75.4)	14/3745 (0.4)	3745/3968 (94.4)	149/223 (66.8)	65/223 (29.1)	9/223 (4.0)	223/3968 (5.6)	
		0.74 (fold)		2.05 (fold)		0.59 (fold)		3.86 (fold)		
MCH (mg)	26-34	24.4 (22.6-25.3)	28.8 (27.8-29.7)	35.7 (34.3-39.9)	28.6 (27.2-29.6)	24.6 (22.7-25.2)	28.8 (27.7-29.9)	NA	28.40 (27.00-29.70)	0.41
		455/3745 (12.1)	3279/3745 (87.6)	11/3745 (0.3)	3745/3968 (94.4)	33/223 (14.8)	190/223 (85.2)		223/3968 (5.6)	
		0.94 (fold)		1.05 (fold)		0.94 (fold)				
MCHC (g/dL)	31-36	29.7 (29.2-30.0)	33.7 (32.8-34.5)	36.4 (36.2-36.7)	33.7 (32.7-34.6)	29.5 (28.4-29.9)	33.3 (32.6-34.1)	36.7 (36.2-37.2)	33.00 (31.50-34.00)	**0.00**
		81/3660 (2.2)	3446/3660 (94.2)	133/3660 (3.6)	3660/3869 (94.6)	25/209 (12.0)	179/209 (85.6)	5/209 (2.4)	209/3869 (5.4)	
		0.96 (fold)		1.01 (fold)		0.95 (fold)		1.02 (fold)		

MCV (fL)	80-96	77.2 (74.3-78.9)	85.3 (83.0-87.9)	99.4 (96.8-102.6)	84.3 (81.1-87.3)	77.2 (73.4-78.1)	86.5 (83.4-90.0)	99.75 (97.6-104.3)	86.10 (81.70-90.20)	**0.00**
		697/3745 (18.6)	3009/3745 (80.3)	39/3745 (1.0)	3745/3968 (94.4)	34/223 (15.2)	177/223 (79.4)	12/223 (5.4)	223/3968 (5.6)	
		0.97 (fold)		1.04 (fold)		0.97 (fold)		1.04 (fold)		
MONO (%)	0.1-1	0.08 (0.06-0.09)	0.49 (0.37-0.63)	1.14 (1.06-1.28)	0.50 (0.37-0.65)	0.08 (0.06-0.09)	0.42 (0.30-0.59)	1.24 (1.10-1.35)	0.44 (0.30-0.66)	**0.00**
		29/3745 (0.8)	3559/3745 (95.0)	157/3745 (4.2)	3745/3968 (94.4)	7/223 (3.1)	194/223 (87.0)	22/223 (9.9)	223/3968 (5.6)	
		0.8 (fold)		1.14 (fold)		0.8 (fold)		1.24 (fold)		
MPV (fL)	9.1-11.9	8.80 (8.70-9.00)	10.30 (9.8-10.9)	12.4 (12.1-12.8)	10.3 (9.8-11.0)	8.80 (8.60-8.90)	10.7 (10.3-11.3)	12.9 (12.3-13.4)	10.90 (10.40-11.60)	**0.00**
		159/3692 (4.3)	3302/3692 (89.4)	231 (6.3)	3692/3906 (94.5)	6/214 (2.8)	174/214 (81.3)	34/214 (15.9)	214/3906 (5.5)	
		0.97 (fold)		1.04 (fold)		0.97 (fold)		1.08 (fold)		
NEU ($\times10^3/\mu L$)	1.8-6.98	1.48 (1.21-1.62)	3.62 (2.75 -4.76)	8.86 (7.84-10.61)	3.76 (2.65-5.51)	1.35 (0.64-1.73)	5.4 (3.72-6.30)	11.24 (8.98-15.5)	8.58 (5.95-13.04)	**0.00**
		274/3745 (7.3)	2958/3745 (79.0)	513/3745 (13.7)	3745/3968 (94.4)	5/223 (2.2)	76/223 (34.1)	142/223 (63.7)	223/3968 (5.6)	
		0.82 (fold)		1.27 (fold)		0.75 (fold)		1.61 (fold)		
PCT (%)	0.18-0.39	0.15 (0.13-0.16)	0.24 (0.21-0.29)	0.43 (0.41-0.46)	0.23 (0.18-0.28)	0.15 (0.13-0.16)	0.26 (0.22-0.31)	0.43 (0.41-0.49)	0.24 (0.18-0.31)	**0.01**
		801/3692 (21.7)	2740/3692 (74.2)	151/3692 (4.1)	3692/3906 (94.5)	48/214 (22.4)	147/214 (68.7)	19/214 (8.9)	214/3906 (5.5)	
		0.83 (fold)		1.10 (fold)		0.83 (fold)		1.10 (fold)		
PDW (fL)	9.9-15.4	9.40 (9.00-9.70)	11.9 (10.9-13.0)	16.9 (16.1-18.3)	11.7 (10.5-13.1)	9.3 (8.75-9.6)	12.65 (11.65-13.75)	18.10 (16.9-19.5)	12.75 (11.60-14.50)	**0.00**
		522/3692 (14.1)	2943/3692 (79.7)	227/3692 (6.1)	3692/3906 (94.5)	16/214 (7.5)	168/214 (78.5)	30/214 (14.0)	214/3906 (5.5)	
		0.95 (fold)		1.10 (fold)		0.94 (fold)		1.18 (fold)		
PLT ($\times10^3/\mu L$)	150-450	127.0 (108.0-140.0)	230.0 (192.0-279.0)	492.0 (468.0-533.0)	218.0 (173.0-272.0)	119.0 (95.0-135.0)	244.0 (195.0-309.0)	480.0 (456.0-521.5)	220.0 (153.0-296.0)	0.93
		549/3744 (14.7)	3132/3744 (83.7)	63/3744 (1.7)	3744/3967 (94.4)	46/223 (20.6)	173/223 (77.6)	4/223 (1.8)	223/3967 (5.6)	
		0.85 (fold)		1.09 (fold)		0.79 (fold)		1.07 (fold)		
RBC ($\times10^6/\mu L$)	4.5-6	4.17 (3.91-4.36)	4.96 (4.72-5.28)	6.16 (6.07-6.36)	4.7 (4.32-5.10)	3.93 (3.40-4.20)	4.86 (4.72-5.20)	6.18 (6.14-6.33)	4.30 (3.79-4.82)	**0.00**
		1341/3745 (35.8)	2344/3745 (62.6)	60/3745 (1.6)	3745/3968 (94.4)	129/223 (57.8)	88/223 (39.5)	6/223 (2.7)	223/3968 (5.6)	
		0.93 (fold)		1.03 (fold)		0.87 (fold)		1.03 (fold)		
RDW (%)	11-14	NA	12.80 (12.3-13.2)	15.10 (14.5-16.4)	13.1 (12.5-14.)	NA	13.30 (12.9-13.7)	15.6 (14.6-18.30)	14.40 (13.40-16.10)	**0.00**
			2836/3743 (75.8)	906/3743 (24.2)	3743/3966 (94.4)		97/223 (43.5)	126/223 (56.5)	223/3966 (5.6)	
				1.08 (fold)				1.11 (fold)		
WBC ($\times10^3/\mu L$)	Female	3.7 (3.1-4.1)	6.4 (5.4-7.8)	13.7 (13.2-15.9)	5.70 (4.5-7.45)	3.15 (2.3-3.8)	8.0 (6.6-9.5)	17.5 (15.5-21.3)	9.3 (6.5-15.35)	**0.00**
	4.49-12.68	458/1856 (24.7)	1363/1856 (73.4)	35/1856 (1.9)	1856/1944 (95.5)	10/88 (11.4)	49/88 (55.7)	29/88 (33.0)	88/1944 (4.5)	
		0.83 (fold)		1.08 (fold)		0.70 (fold)		1.38 (fold)		
	Male	3.4 (3.0-3.7)	6.6 (5.4-7.9)	13.1 (11.9-15.2)	6.6 (5.1-8.45)	3.3 (2.6-3.4)	8.6 (7.2-9.6)	15.75 (12.8-20.6)	10.8 (8.2-15.60)	**0.00**
	3.91-10.9	163/1868 (8.7)	1518/1868 (81.3)	187/1868 (10.0)	1868/2002 (93.3)	5/134 (3.7)	65/134 (48.5)	64/134 (47.8)	134/2002 (6.7)	
		0.87 (fold)		1.2 (fold)		0.84 (fold)		1.44 (fold)		
P.LCR (%)	NA	NA	NA	NA	27.8 (23.2-33.1)	NA	NA	NA	32.20 (27.40-37.50)	**0.00**
NLR	NA	NA	NA	NA	2.40 (1.54-4.50)	NA	NA	NA	12.10 (5.76-19.85)	**0.00**
PLR	NA	NA	NA	NA	142.55 (104.82-218.43)	NA	NA	NA	293.48 (169.49-468.09)	**0.00**
dNLR	NA	NA	NA	NA	1.68 (1.15-2.90)	NA	NA	NA	6.56 (3.39-10.70)	**0.00**

LMR	NA	NA	NA	NA	3.13 (2.07-4.29)	NA	NA	NA	1.85 (1.10-2.91)	**0.00**

Note: Data in sex are expressed as number (percentage). Other data are expressed as median (interquartile range), number (percentage) and fold to reference range. All data were analyzed by Mann-Whitney *U* test. BASO: basophil; d-NLR: derived neutrophil to lymphocyte ratio; EOS: eosinophil; HCT: hematocrit; HGB: hemoglobin; LMR: lymphocyte to monocyte ratio; LYM: lymphocyte; MCH: mean corpuscular hemoglobin; MCHC: mean corpuscular hemoglobin concentration; MCV: mean corpuscular volume; MONO: monocyte; MPV*:* mean platelet volume; NA: not applicable; NEU: neutrophil; NLR: neutrophil to lymphocyte ratio; PCT: plateletcrit; PDW: platelet distribution width; P-LRC: platelet large cell ratio; PLR: platelet to lymphocyte ratio; PLT: platelet; RBC: red blood cells; RDW: red cell distribution width; WBC: white blood cell.

Additional Table 3: Seasonal differences in biochemical biomarkers between the groups on admission

	Spring	**Summer**	**Autumn**	***P*-value**
Non-ICU				
ALT (U/L)	29.6±51.13	33.75±54.52*	35.51±41.62*#	**0.00**
	18.0(4.0-910.0)	22.0(3.0-1349.0)	24.85(0.70-960.0)	
AST (U/L)	30.54±55.85	34.12±41.36*	33.67±29.27*	**0.00**
	23.0(9.0-1062.0)	27.0(9.0-1062.0)	26.0(4.0-674.0)	
AST/ALT	1.31±0.69	1.32±0.68	1.24±2.29*	**0.00**
	1.17(0.22-5.5)	1.2(0.22-6.33)	1.05(0.15-102.86)	
Alb (g/L)	39.90±5.26	38.76±5.42*	37.29±5.42*#	**0.00**
	40.30(17.70-49.79)	39.00(0.08-55.0)	36.9(0.17-52.1)	
ALP (U/L)	441.25±497.45	189.32±330.55*	73.42±43.11*#	**0.00**
	95.0(5.60-3150.0)	77.0(1.0-3150.0)	72.00(3.60-464.00)	
Amylase (U/L)	69.77±29.51	72.90±35.29	76.78±58.71	0.59
	64.0(24.0-174.00)	65.00(11.0-266.0)	67.00(16.00-874.00)	
CK-MB (U/L)	18.84±13.33	19.93±23.26	18.15±15.01#	**0.00**
	16.10(6.30-174.70)	16.7(4.80-575.4)	15.20(1.00-211.40)	
Iron (μg/dL)	51.1±37.1	47.2±35.3	33.80±22.33	0.49
	50.0(1.0-220.00)	45.0(1.0-220.0)	23.00(10.00-61.00)	
TIBC (μg/dL)	243.9±70.4	247.6±67.3	237.75±78.20	0.90
	237.0(48.0-379.00)	238.0(48.0-379.0)	222.00(161.00-346.00)	
D. Bil. (mg/dL)	0.15±0.11	0.18±0.90	0.14±0.47*#	**0.00**
	0.13(0.03-1.33)	0.12(0.01-20.0)	0.10(0.01-13.00)	
GGT (U/L)	33.9±30.61	45.55±61.32*	50.89±59.79*#	**0.00**
	24.0(7.0-282.00)	28.0(1.0-1085.0)	32.00(1.00-664.00)	

Glucose (mg/dL)	107.97 ±43.1	113.0 ±51.0	148.54 ±81.51*#	**0.00**
	96.0(31.0-434.00)	98.0(17.0-527.0)	118.0(36.00-695.00)	
HDL (mg/dL)	38.3 ±11.3	34.55 ±10.04*	33.64 ±9.36*	**0.00**
	36.0(13.0-76.00)	33.0(13.0-93.0)	32.00(15.00-71.00)	
Ca (mg/dL)	9.34 ±0.60	9.0 ±0.7*	8.80 ±0.65*#	**0.00**
	9.4(6.8-11.70)	9.0(0.6-11.7)	8.73(6.70-12.43)	
Cl (mM)	103.64 ±3.62	104.0 ±3.75	102.91 ±4.28*#	**0.00**
	104.0(90.00-119.00)	104.0(90.0-125.0)	103.00(84.00-126.00)	
T.Col. (mg/dL)	171.05 ±46.78	161.54 ±40.61	160.67 ±41.49*	**0.04**
	164.00(73.00-338.00)	158.0(6.0-338.0)	158.00(5.00-354.00)	
Creatinine (mg/dL)				
Male	1.08 ±0.43	1.09 ±0.5	1.32 ±6.20*#	**0.00**
	0.99(0.54-4.78)	0.99(0.54-6.8)	1.03(0.55-202.00)	
Female	0.87 ±0.28	0.88 ±0.37	0.92 ±0.46#	**0.02**
	0.80(0.54-2.56)	0.81(0.46-6.34)	0.83(0.32-8.84)	
CK (U/L)	108.86 ±117.75	106.13 ±156.51	105.69 ±195.26*#	**0.00**
	76.00(19.00-1328.00)	72.0(2.0-3576.0)	66.00(5.00-4665.00)	
LDH (U/L)	248.25 ±95.53	268.21 ±104.92*	262.62 ±117.76#	**0.00**
	224.00(20.00-847.00)	244.0(20.0-1167.0)	234.00(69.00-1198.00)	
LDL (mg/dL)	101.5 ±38.1	99.37 ±34.60	100.88 ±33.76	0.93
	99.0(27.0-258.0)	98.50(15.0-258.0)	100.5(38.0-200.0)	
Lipase (U/L)	59.0 ±45.848.0(33.0-221.0)	37.8 ±30.2	53.6 ±22.61#	**0.00**
		33.0(7.1-221.0)	49.5(17.2-107.0)	
Mg (mg/dL)	2.23 ±0.4	2.19 ±0.41	2.3 ±0.33	0.19
	2.2(1.7-4.65)	2.1(1.3-4.65)	2.25(1.9-3.1)	
K (mM)	4.25 ±0.45	4.25 ±0.53	4.28 ±1.0	0.97
	4.2(2.6-7.5)	4.21(2.6-13.0)	4.2(2.4-44.0)	
Na (mM)	140.77 ±3.86	140.87 ±3.63	140.27 ±4.18#	**0.00**
	141.0(126.0-160.0)	141.0(125.0-160.0)	141.0(112.0-164.0)	
T.Bil. (mg/dL)	0.6 ±0.37	0.58 ±1.02*	0.51 ±0.61*#	**0.00**
	0.51(0.02-2.72)	0.47(0.01-29.0)	0.44(0.01-19.0)	
T.Protein (g/L)	70.34 ±6.57	69.05 ±6.59*	67.09 ±7.18*#	**0.00**
	71.2(43.7-83.0)	69.05(43.70-96.0)	67.0(15.0-94.1)	
TG (mg/dL)	142.28 ±90.6	142.87 ±77.1	142.61 ±104.24	0.24
	118.0(36.0-735.0)	128.0(36.0-735.0)	117.0(32.0-1402.0)	
eGFR (mL/min)	86.8 ±24.55	83.94 ±26.45*	78.79 ±32.44*#	**0.00**
	89.8(13.94-133.57)	86.02(7.25-481.98)	79.89(4.72-561.75)	

Urea (mg/dL)	34.41 ±24.01	35.78 ±22.78	42.23 ±28.17*#	**0.00**
	28.0(10.00-287.0)	30.0(10.0-287.0)	34.0(6.0-316.0)	
UA (mg/dL)	5.26 ±1.69	5.27 ±1.90	5.73 ±2.15*#	**0.00**
	5.1(2.2-13.2)	5.0(0.90-13.6)	5.5(1.5-15.0)	
AIP	0.53 ±0.29	0.58 ±0.26*	0.58 ±0.27	**0.03**
	0.52(0.27-1.36)	0.59(0.27-1.36)	0.58(0.17-1.85)	
ICU				
ALT (U/L)	56.8 ±119.23	46.7 ±75.65	64.9 ±88.9#	**0.00**
	25.0(5.0-587.0)	22.0(5.0-587.0)	39.0(8.0-640.0)	
AST (U/L)	65.96 ±131.3	61.7 ±88.68	113.9 ±302.9*#	**0.00**
	28.0(9.0-652.0)	32.0(9.0-652.0)	47.0(14.0-2927.0)	
AST/ALT	1.63 ±1.17	1.74 ±1.35	1.82 ±3.14	0.39
	1.10(0.64-5.60)	1.43(0.45-10.14)	1.24(0.36-37.05)	
Alb (g/L)	34.91 ±7.3	30.31 ±6.46*	28.08 ±4.52#	**0.00**
	37.30(17.40-44.2)	30.2(17.40-44.2)	28.5(17.8-38.9)	
ALP (U/L)	548.92 ±431.65	227.25 ±302.62*	99.38 ±68.02*	**0.00**
	580.0(56.0-1230.0)	94.0(37.0-1230.0)	78.00(6.80-425.00)	
Amylase (U/L)	154.0 ±176.04	98.2 ±110.80	81.44 ±60.00	0.42
	67.5(31.0-551.0)	57.0(18.0-551.0)	52.41(21.00-234.00)	
CK-MB (U/L)	27.83 ±21.28	35.46 ±51.87	33.55 ±19.03	0.18
	18.4(11.2-93.8)	23.95(9.7-346.8)	26.00(9.00-86.20)	
Iron (µg/dL)	22.0 ±24.0	19.0 ±17.8	10.00 ±0.00	0.95
	22.0(5.0-39.0)	13.0(5.0-39.0)	10.00(10.00-10.00)	
TIBC (µg/dL)	307.0 ±0.0	289.0 ±25.5	124.00 ±0.00	0.33
	307.0(307.0-307.0)	289.0(271.0-307.0)	124.00(124.00-124.00)	
D. Bil. (mg/dL)	0.17 ±0.06	0.21 ±0.16	0.29 ±0.82	0.49
	0.14(0.09-0.27)	0.16(0.05-1.0)	0.17(0.03-9.02)	
GGT (U/L)	66.13 ±81.73	80.52 ±116.7	98.02 ±97.08#	**0.01**
	39.0(10.0-287.0)	40.0(10.0-744.0)	66.00(14.00-534.00)	
Glucose (mg/dL)	150.2 ±105.4	174.5 ±104.6	204.99 ±105.64*#	**0.00**
	122.5(54.0-474.0)	134.05(4.0-619.0)	180.50(72.00-846.00)	
HDL (mg/dL)	39.42 ±13.46	32.32 ±13.56	33.85 ±10.85	0.27
	35.0(15.0-60.0)	32.0(8.0-60.0)	28.00(22.00-54.00)	
Ca (mg/dL)	8.74 ±0.71	8.37 ±0.62	8.03 ±0.66*#	**0.00**
	8.75(7.3-9.6)	8.3(7.1-9.6)	8.10(4.90-10.10)	
Cl (mM)	105.23 ±8.3	102.44 ±7.41	104.20 ±8.01	0.17
	105.0(94.0-125.0)	102.0(88.0-125.0)	104.00(79.00-137.00)	

T.Col. (mg/dL)	167.17 ±33.47	155.57 ±46.16	148.29 ±35.25	0.43
	167.5(119.0-223.0)	147.0(70.0-276.0)	145.00(99.00-217.00)	
Creatinine (mg/dL)				
Male	1.35 ±0.82	1.25 ±0.74	1.60 ±1.10[#]	**0.02**
	1.01(0.89-3.66)	1.02(0.54-4.38)	1.23(0.46-6.13)	
Female	1.41 ±0.85	1.62 ±1.41	1.43 ±1.08	0.98
	1.28(0.49-2.64)	0.99(0.49-5.98)	1.03(0.45-6.09)	
CK (U/L)	222.48 ±411.47	245.27 ±430.16	173.43 ±246.92	0.32
	107.0(32.0-1953.0)	100.01(5.0-2024.0)	90.00(15.00-1036.00)	
LDH (U/L)	318.9 ±219.3	475.2 ±330.3	489.26 ±287.77[*]	**0.01**
	220.0(160.0-896.0)	351.0(160.0-1547.0)	393.50(176.00-1458.00)	
LDL (mg/dL)	107.9 ±33.18	97.95 ±38.8	97.17 ±34.56	0.78
	106.0(61.0-164.0)	98.0(28.0-164.0)	90.5(61.0-149.0)	
Lipase (U/L)	46.0 ±15.62	37.58 ±48.44	44.72 ±38.03	0.20
	38.0(36.0-64.0)	17.7(7.7-165.6)	37.6(11.6-176.7)	
Mg (mg/dL)	2.1 ±0.16	2.21 ±0.41	2.47 ±0.59	0.05
	2.1(1.9-2.3)	2.1(1.6-3.2)	2.4(1.1-5.1)	
K (mM)	4.1 ±0.6	4.19 ±0.68	4.66 ±4.6	0.40
	4.1(2.4-5.2)	4.2(2.4-6.1)	4.4(2.3-59.0)	
Na (mM)	141.0 ±6.98	141.27 ±6.53	143.14 ±7.89	0.13
	140.0(125.0-162.0)	141.0(124.0-162.0)	142.0(119.0-175.0)	
T.Bil. (mg/dL)	0.76 ±0.49	0.75 ±0.44	0.84 ±1.43	0.98
	0.68(0.14-1.97)	0.62(0.14-1.97)	0.62(0.02-15.53)	
T.Protein (g/L)	64.47 ±9.6	60.27 ±8.11	58.07 ±7.63[*]	**0.02**
	65.9(44.9-74.6)	58.7(42.8-74.6)	58.05(34.7-79.6)	
TG (mg/dL)	131.38 ±77.1	161.03 ±126.64	133.62 ±53.31	0.73
	111.0(48.0-316.0)	122.0(48.0-708.0)	134.0(46.0-280.0)	
eGFR (mL/min)	76.67 ±35.05	66.85 ±30.79	55.59 ±26.24[*#]	**0.00**
	88.95(16.38-114.73)	68.57(6.18-123.93)	56.91(5.6-116.15)	
Urea (mg/dL)	80.05 ±77.61	79.67 ±67.08	99.03 ±69.46[*#]	**0.00**
	38.0(19.0-278.0)	53.0(16.0-334.0)	75.0(18.0-358.0)	
UA (mg/dL)	6.67 ±4.08	6.09 ±3.36	5.41 ±1.93	0.82
	5.8(1.7-13.4)	5.9(1.7-13.7)	5.7(2.6-8.8)	
AIP	0.48 ±0.39	0.66 ±0.41	0.58 ±0.26	0.39
	0.4(0.06-1.16)	0.61(0.06-1.55)	0.6(0.05-1.1)	

Note: Data are expressed as mean ± SD and median (minimum-maximum). [*]$P < 0.05$, *vs*. spring; [#]$P < 0.05$, *vs*. summer (Mann-Whitney *U* test). AIP: atherogenic index of plasma; Alb: albumin; ALP: alkaline phosphatase; ALT: alanine aminotransferase; AST: aspartate aminotransferase; Ca: calcium; CI: chlorine; CK: creatine kinase; CK-MB: creatine kinase myocardial

band; D. Bil: direct bilirubin; eGFR: estimated glomerular filtration rate; GGT: gamma-glutamyltransferase; HDL: high density lipoprotein; K: potassium; LDH: lactate dehydrogenase; LDL: low density lipoprotein; Mg: magnesium;Na: sodium; T. Bil: total bilirubin; T.Col.: total cholesterol; TG: triglyceride; TIBC: total iron-binding capacity; T. Protein: total protein; UA: uric acid.

Additional Table 4: Differences in biochemical biomarkers between the groups on admission.

	Reference range	**Non-ICU**				**ICU**				***P*-value**
		Decreased	**Normal**	**Increased**	**Total**	**Decreased**	**Normal**	**Increased**	**Total**	
ALT (U/L)	0-35	NA	18.0 (14.0-25.0)	54.0 (43.0-74.10)	23.0 (16.0-39.0)	NA	19.0 (14.0-26.0)	63.0 (46.0-102.6)	32.0 (19.0-61.0)	
			2828/3944 (71.7)	1116/3944 (28.3)	3944/4183 (94.3)		127/239 (53.1)	112/239 (46.9)	239/4183(5.7)	**0.00****
				1.54 (fold)				1.8 (fold)		
AST (U/L)	0-50	NA	24.0 (19.0-32.0)	66.0 (56.0-86.5)	26.0 (20.0-37.0)	NA	28.0 (21.5-36.5)	79.5 (60.0-150.5)	44.0 (26.0-70.0)	
			3400/3864 (88.0)	464/3864 (12.0)	3864/4104 (94.2)		140/240 (58.3)	100/240 (41.7)	240/4104 (5.8)	**0.00****
				1.32 (fold)				1.59 (fold)		
AST/ALT		NA	NA	NA	1.11(0.81-1.50)	NA	NA	NA	1.33 (0.88-2.05)	**0.00****
Alb (g/L)	35-52	32.4 (30.5-33.7)	40.0 (37.4-43.3)	52.94 (52.19-54.31)	37.90 (34.30-42.00)	27.8 (24.1-30.8)	37.5 (36.0-41.4)	NA	29.25 (25.4-32.6)	**0.00****
		893/3108 (28.7)	2211/3108 (71.1)	4/3108 (0.1)	3108/3324 (93.5)	179/216 (82.9)	37/216 (17.1)		216/3324 (6.5)	
		0.92 (fold)		1.02 (fold)		0.74 (fold)				
ALP (U/L)	30-120	7.70 (6.30-9.4)	73.0 (60.0-87.0)	580.0 (140.5-900.0)	75.0 (56.0-100.0)	7.35 (6.8-7.9)	75.5 (63.5-92.5)	266.0 (140.0-800.0)	87.0 (66.0-128.0)	**0.00****
		556/2541 (21.9)	1597/2541 (62.8)	388/2541 (15.3)	2541/2732 (93.0)	20/191 (10.5)	124/191 (64.9)	47/191 (24.6)	191/1732 (7)	
		0.26 (fold)		4.83 (fold)		0.24 (fold)		2.22 (fold)		
Amylase (U/L)	28-100	24.0 (20.0-25.0)	62.0 (50.0-77.0)	120.0 (106.5-143.5)	65.0 (51.0-88.0)	21.0 (18.0-26.0)	52.0 (42.0-68.0)	169.0 (137.0-224.0)	64.0 (44.0-105.0)	0.71
		14/708 (2.0)	586/708 (82.8)	108/708 (15.3)	708/793 (89.3)	7/85 (8.2)	55/85 (64.7)	23/85 (27.1)	85/793 (10.7)	
		0.85 (fold)		1.2 (fold)		0.75 (fold)		1.69 (fold)		
CK-MB (U/L)	0-24	NA	14.9 (11.9-18.2)	30.1 (26.6-44.25)	16.00 (12.5-21.3)	NA	16.9 (14.7-20.6)	35.0 (28.5-46.3)	25.35 (17.1-35.95)	**0.00****
			1434/1706 (84.1)	272/1706 (15.9)	1706/1794 (95.1)		41/88 (46.6)	47/88 (53.4)	88/1794 (4.9)	
				1.25 (fold)				1.46 (fold)		
Iron (µg/dL)	70-180	42.0 (21.0-54.0)	89.0 (77.0-95.0)	220.0 (220.0-220.0)	46.0 (24.0-62.0)	11.50 (5.0-39.0)	NA	NA	11.5 (5.0-39.0)	**0.00***
		82/98 (83.7)	14/98 (14.3)	2/98 (2.0)	98/104 (94.2)	6/6 (100.0)			6/104 (5.8)	
		0.6 (fold)		1.22 (fold)		0.16 (fold)				
TIBC (µg/dL)	155-355	146.0 (48.0-153.0)	237.0 (201.0-279.0)	377.0 (376.0-379.0)	237.0 (194.0-297.0)	124.0 (124.0-124.0)	307.0 (271.0-307.0)	NA	289.0 (197.5-307.0)	0.75
		6/90 (6.7)	78/90 (86.7)	6/90 (6.7)	90/94 (95.7)	1/4 (25.0)	3/4 (75.0)		4/94 (4.3)	
		0.94 (fold)		1.06 (fold)		0.8 (fold)				
D. Bil. (mg/dL)	0-0.2	NA	0.11 (0.08-0.14)	0.26 (0.22-0.32)	0.11 (0.08-0.15)	NA	0.12 (0.10-0.14)	0.28 (0.22-0.35)	0.17 (0.12-0.26)	**0.00****
			2484/2770 (89.7)	286/2770 (10.3)	2770/2963 (93.5)		108/193 (56.0)	85/193 (44.0)	193/ 2963 (6.5)	
				1.3 (fold)				1.4 (fold)		

GGT (U/L)	0-38	NA	21.0 (15.0-28.0) 1996/3291 (60.7)	64.0 (48.0-97.0) 1295/3291 (39.3) 1.68 (fold)	30.0 (18.0-54.0) 3291/3490 (94.3)	NA	22.0 (17.0-26.0) 71/199 (35.7)	88.0 (60.0-157.5) 128/199 (64.3) 2.32 (fold)	58.0 (25.0-109.0) 199/3490 (5.7)	**0.00****
Glucose (mg/dL)	60-100	56.0 (31.0-58.0) 11/3504 (0.3) 0.93 (fold)	90.0 (84.0-95.0) 1380/3504 (39.4)	132.0 (112.0-182.0) 2113/3504 (60.3) 1.32 (fold)	107.0 (93.0-142.0) 3504/3721 (94.2)	54.0 (54.0-54.0) 2/217 (0.9) 0.9 (fold)	91.0 (86.0-96.0) 35/217 (16.1)	183.0 (133.0-260.5) 180/217 (82.9) 1.83 (fold)	163.0 (118.0-240.0) 217/3721 (5.8)	**0.00****
HDL (mg/dL)	40-60	30.0 (26.0-34.0) 976/1313 (74.3) 0.75 (fold)	46.0 (42.0-50.0) 314/1313 (23.9)	67.0 (65.0-71.0) 23/1313 (1.8) 1.12 (fold)	33.0 (28.0-40.0) 1313/1366 (96.1)	28.0 (24.0-33.0) 37/53 (69.8) 0.7 (fold)	51.0 (48.0-54.5) 16/53 (30.2)	NA	33.0 (26.0-45.0) 53/1366 (3.9)	0.64
Calcium (mg/dL)	8.8-10.6	8.4 (8.1-8.6) 1214/2928 (41.5) 0.95 (fold)	9.30 (9.0-9.6) 1701/2928 (58.1)	11.2 (10.8-11.4) 13/2928 (0.4) 1.06 (fold)	8.9 (8.49-9.40) 2928/3138 (93.3)	8.1 (7.7-8.3) 174/210 (82.9) 0.92 (fold)	9.2 (8.91-9.4) 36/210 (17.1)	NA	8.20 (7.8-8.5) 210/3138 (6.7)	**0.00****
CI (mM)	98-107	95.0 (94.0-97.0) 176/2497 (7.0) 0.97 (fold)	103.0 (101.0-105.0) 2021/2497 (80.9)	109.0 (108.0-110.0) 300/2497 (12.0) 1.02 (fold)	104.0 (101.0-106.0) 2497/2690 (92.8)	95.0 (93.0-96.0) 40/193 (20.7) 0.97 (fold)	103.0 (101.0-111.0 105.0) 98/193 (50.8)	(109.0-114.0) 55/193 (28.5) 1.04 (fold)	103.0 (99.0-108.0) 193/2690 (7.2)	0.79
T.Col. (mg/dL)	0-200	NA	150.0 (129.0-171.0) 1106/1339 (82.6)	222.0 (211.0-239.0) 233/1339 (17.4) 1.1 (fold)	158.0 (134.0-188.0) 1339/1393 (96.1)	NA	139.0 (122.0-208.05 167.5) 44/54 (81.5)	(208.0-153.5 (126.0-184.0) 223.0) 10/54 (18.5) 1.04 (fold)	54/1393 (3.9)	0.31
Creatinine (mg/dL)	Male 0.84-1.25	0.78 (0.73-0.81) 212/1930 (11.0) 0.93 (fold)	1.00 (0.93-1.08) 1394/1930 (72.2)	1.47 (1.35-1.75) 324/1930 (16.8) 1.18 (fold)	1.01 (0.91-1.15) 1930/2072 (93.1)	0.70 (0.60-0.79) 15/142 (10.6) 0.83 (fold)	1.01 (0.94-1.11) 75/142 (52.8)	1.82 (1.42-2.68) 52/142 (36.6) 1.46 (fold)	1.10 (0.95-1.46) 142/2072 (6.9)	**0.00****
	Female 0.66-1.09	0.60 (0.55-0.63) 215/1946 (11.0) 0.91 (fold)	0.82 (0.75-0.90) 1462/1946 (75.1)	1.33 (1.17-1.58) 269/1946 (13.8) 1.22 (fold)	0.82 (0.73-0.94) 1946/2037 (95.5)	0.49 (0.48-0.59) 7/91 (7.7) 0.74 (fold)	0.86 (0.76-0.94) 42/91 (46.2)	1.82 (1.36-2.36) 42/91 (46.2) 1.67 (fold)	1.02 (0.83-1.78) 91/2037 (4.5)	**0.00****
CK (U/L)	0-145	NA	61.0 (41.0-86.0) 2694/3209 (84.0)	214.0 (170.0-329.0) 515/3209 (16.0) 1.48 (fold)	70.0 (45.0-109.0) 3209/3346 (95.9)	NA	62.0 (39.0-292.0 (191.0-624.0) 104.0) 95/137 (69.3)	42/137 (30.7) 2.01 (fold)	99.0 (53.0-183.0) 137/3346 (4.1)	**0.00****
LDH (U/L)	0-248	NA	200.0 (176.0-222.0) 1539/2752 (55.9)	307.0 (273.0-369.0) 1213/2752 (44.1) 1.24 (fold)	237.0 (195.0-297.0) 2752/2840 (96.9)	NA	209.0 (179.0-413.0 (342.0-676.0) 221.0) 26/88 (29.5)	62/88 (70.5) 1.67 (fold)	351.0 (232.0-601.0) 88/2840 (3.1)	**0.00****
LDL (mg/dL)	0-130	NA	88.0 (72.0-106.0) 357/444 (80.4)	149.0 (141.0-158.0) 87/444 (19.6) 1.15 (fold)	99.0 (75.0-121.0) 444/477 (93.1)	NA	96.5 (66.0-149.0 (138.0-164.0) 108.0) 26/33 (78.8)	7/33 (21.2) 1.15 (fold)	98.0 (73.0-118.0) 33/477 (6.9)	0.86
Lipase (U/L)	0-67	NA	41.0 (20.0-49.0) 82/90 (91.1)	74.8 (71.0-164.0) 8/90 (8.9) 1.12 (fold)	41.0 (21.0-51.9) 90/121 (74.4)	NA	32.15 (17.10-165.6 (81.0-176.7) 43.85) 28/31 (90.3)	3/31 (9.7) 2.47 (fold)	36.0 (17.4-58.1) 31/121 (25.6)	0.29

Mg (mg/dL)	1.8-2.6	1.7 (1.4-1.7)	2.17 (2.0-2.2)	3.1 (2.8-3.6)	2.20 (2.0-2.3)	1.7 (1.6-1.7)	2.3 (2.0-2.5)	3.0 (2.8-3.25)	2.30 (2.0-2.70)	**0.00****
		6/173 (3.5)	155/173 (89.6)	12/173 (6.9)	173/280 (61.8)	10/107 (9.3)	69/107 (64.5)	28/107 (26.2)	107/280 (38.2)	
		0.94 (fold)		1.19 (fold)		0.94 (fold)		1.15 (fold)		
K (mM)	3.5-5.1	3.3 (3.1-3.4)	4.2 (4.0-4.5)	5.4 (5.3-5.7)	4.20 (3.97-4.5)	3.2 (2.95-3.35)	4.3 (3.9-4.6)	5.7 (5.3-5.9)	4.3 (3.8-4.7)	
		169/3828 (4.4)	3493/3828 (91.2)	166/3828 (4.3)	3828/4069 (94.1)	36/241 (14.9)	182/241	(%23/241 (9.5)	241/4069 (5.9)	0.82
		0.94 (fold)		1.06 (fold)		0.91 (fold)	75.5)	1.12 (fold)		
Na (mM)	136-146	134.0 (131.0-135.0)	141.0 (139.0-143.0)	148.0 (147.0-150.0)	141.0 (139.0-143.0)	133.0 (129.0-135.0)	140.0	(138.0-150.0 (148.0-154.0)	142.0 (138.0-147.0)	**0.00***
		341/3774 (9.0)	3298/3774 (87.4)	135/3774 (3.6)	3774/4014 (94.0)	31/240 (12.9)	143.0)	62/240 (25.8)	240/4014 (6.0)	
		0.99 (fold)		1.01 (fold)		0.98 (fold)	147/240 (61.3)	1.03 (fold)		
T.Bil. (mg/dL)	0.3-1.2	0.23 (0.19-0.27)	0.49 (0.4-0.64)	1.39 (1.28-1.76)	0.46 (0.34-0.63)	0.24 (0.15-0.28)	0.62 (0.47-0.82)	1.6 (1.42-1.97)	0.62 (0.46-0.91)	**0.00****
		383/2282 (16.8)	1822/2282 (79.8)	77/2282 (3.4)	2282/2458 (92.8)	15/176 (8.5)	142/176 (80.7)	19/176 (10.8)	176/2458 (7.2)	
		0.77 (fold)		1.16 (fold)		0.8 (fold)		1.34 (fold)		
T. Protein (g/L)	66-83	62.1 (59.2-64.3)	71.6 (68.6-75.0)	85.0 (84.8-85.8)	68.26 (63.7-72.8)	56.7 (52.9-60.8)	69.3 (67.2-72.9)	NA	58.5 (54.4-64.8)	**0.00****
		710/1930 (36.8)	1207/1930 (62.5)	13/1930 (0.7)	1930/2111 (91.4)	144/181 (79.6)	37/181 (20.4)		181/2111 (8.6)	
		0.94 (fold)		1.02 (fold)		0.86 (fold)				
TG (mg/dL)	0-150	NA	100.0 (79.0-122.0)	195.0 (171.0-246.0)	121.0 (90.0-168.0)	NA	10.8.0	(83.0-216.0 (168.0-280.0)	119.0 (91.0-158.0)	0.86
			920/1363 (67.5)	443/1363 (32.5)	1363/1420 (96.0)		128.0)	17/57 (29.8)	57/1420 (4.0)	
				1.3 (fold)			40/57 (70.2)	1.44 (fold)		
eGFR.(CKD-EPI) (mL/min)		NA	NA	NA	82.87 (64.97-97.59)	NA	NA	NA	60.55 (37.31-82.88)	**0.00****
Urea (mg/dL)	17-43	15.0 (13.0-16.0)	28.0 (23.0-34.0)	58.0 (49.0-76.0)	32.0 (24.1-45.0)	16.0 (16.0-16.0)	31.0 (28.0-36.0)	83.0 (58.0-137.0)	66.0 (46.0-119.0)	**0.00****
		177/3873 (4.6)	2637/3873 (68.1)	1059/3873 (27.3)	3873/4108 (94.3)	1/235 (0.4)	53/235 (22.6)	181/235 (77.0)	235/4108 (5.7)	
		0.88 (fold)		1.35 (fold)		0.94 (fold)		1.93 (fold)		
UA (mg/dL)	3.5-7.2	2.9 (2.5-3.2)	5.2 (4.4-6.0)	8.3 (7.7-9.3)	5.3 (4.1-6.5)	2.8 (2.6-3.0)	5.1 (3.9-6.3)	7.95 (7.45-11.35)	5.8 (3.5-7.4)	0.61
		251/1775 (14.1)	1230/1775 (69.3)	294/1775 (16.6)	1775/1836 (96.7)	14/61 (23.0)	27/61 (44.3)	20/61 (32.8)	61/1836 (3.3)	
		0.83 (fold)		1.15 (fold)		0.8 (fold)		1.1 (fold)		
AIP		NA	NA	NA	0.58 (0.39-0.74)	NA	NA	NA	0.6 (0.34-0.81)	0.74

Note: Data are expressed as median (interquartile range), number (percentage) and fold to reference range, and were anazluezed by Mann-Whitney *U* test. AIP: atherogenic index of plasma; Alb: albumin; ALP: alkaline phosphatase; ALT: alanine aminotransferase; AST: aspartate aminotransferase; Ca: calcium; CI: chlorine; CK: creatine kinase; CK-MB: creatine kinase myocardial band; D. Bil: direct bilirubin; eGFR: estimated glomerular filtration rate; GGT: gamma glutamyltransferase; HDL: high density lipoprotein; K: potassium; LDH: lactate dehydrogenase; LDL: low density lipoprotein; Mg: magnesium; NA: not applicable; Na: sodium; T. Bil: total bilirubin; T.Col.: total cholesterol; TG: triglyceride; TIBC: total iron binding capacity; T. Protein: total protein; UA: uric acid.

Additional Table 5: Seasonal differences in inflammatory, cardiac and coagulation biomarkers between the groups on admission

	Spring	Summer	Autumn	*P*-value
Non-ICU				
CRP (mg/L)	26.67 ±41.99	25.72 ±39.09	29.33 ±42.94[*#]	**0.00**
	6.44(0.15-284.00)	6.98(2.57-253.0)	12.40(3.00-514.0)	
D-Dimer (µg/L)	1016.1 ±2128.1	1250.2 ±3249.9	1068.1 ±1736.6	0.10
	494.0(82.0-19000.0)	534.0(96.0-36300.0)	571.9(1.06-15800.0)	
Ferritin (mL/ng)				
Male	229.08 ±267.48	294.04 ±305.29[*]	364.95 ±340.30[*#]	**0.00**
	140.60(9.60-1650.00)	193.60(5.80-2000.00)	266.70(3.80-1654.10)	
Female	101.44 ±192.63	173.30 ±248.82[*]	171.17 ±213.83[*]	**0.00**
	41.45(3.40-1650.00)	95.35(2.80-2000.00)	104.00(2.40-1650.00)	
Fibrinogen (mg/dL)	327.9 ±63.3	339.3 ±76.6	337.8 ±72.0	0.30
	324.4(153.7-501.3)	327.8(125.5-509.5)	331.3(70.6-681.9)	
INR	1.94 ±9.24	1.16 ±0.32	1.18 ±0.48	0.92
	1.11(0.77-108.0)	1.1(0.8-6.2)	1.10(0.87-7.57)	
PT (s)	14.45 ±10.4	13.7 ±3.44	13.98 ±5.12	0.91
	13.2(9.40-129.0)	13.0(10.0-67.3)	13.1(10.5-81.00)	
Procalcitonin (ng/mL)	0.88 ±3.3	4.51 ±12.1	0.46 ±4.3[#]	**0.03**
	0.12(0.05-27.00)	0.12(0.12-87.0)	0.12(0.12-100.0)	
ESR (mm/h)	27.36 ±23.8	22.9 ±20.07	30.8 ±25.28[#]	**0.00**
	22.0(2.00-120.0)	18.0(2.00-120.0)	22.0(2.00-139.00)	
Troponin I (ng/L)	14.26 ±40.0	18.5 ±129.97	26.18 ±217.2	0.20
	10.0(10.00-680.0)	10.0(10.00-3300.0)	10.00(1.00-4600.0)	
aPTT (s)	35.65 ±30.2	37.9 ±10.89[*]	35.0 ±16.26[*#]	**0.00**
	31.4(20.2-414.0)	35.25(12.0-101.0)	33.0(12.0-353.00)	
LCR	0.32 ±0.79	0.28 ±0.42	0.22 ±0.25[*#]	**0.00**
	0.18(0.00-12.42)	0.17(0.00-6.0)	0.11(0.00-3.15)	
SII	1364.6 ±1708.8	1386.1 ±1945.1	929.6 ±1397.2[*#]	**0.00**
	671.7(9.27-14203.0)	622.3(10.2-18480.8)	501.7(6.96-22964.9)	
ICU				
CRP (mg/L)	53.46 ±46.09	97.89 ±66.18	90.00 ±66.78	0.06
	27.20(3.02-136.0)	93.40(3.02-260.0)	74.05(3.02-288.0)	
D-Dimer (µg/L)	653.3 ±561.5	3887.9 ±4617.6	3801.1 ±6189.0	0.15
	371.0(289.0-1300.0)	1350.0(353.0-16400.0)	1640.0(408.0-37000.0)	
Ferritin (mL/ng)				

Male	242.61 ±219.93	670.68 ±493.79*	756.99 ±429.76*#	**0.00**
	188.90(10.10-655.90)	517.60(4.22-1654.10)	742.20(129.50-1650.00)	
Female	31.80 ±0.00	201.39 ±175.30	374.80 ±381.04	0.11
	31.80(31.80-31.80)	166.10(13.30-476.80)	237.20(11.90-2000.00)	
Fibrinogen (mg/dL)	351.4 ±54.3	353.6 ±68.1	362.1 ±65.4	0.62
	334.8(289.2-466.2)	359.7(137.6-501.4)	364.9(213.0-493.6)	
INR	2.42 ±2.83	1.32 ±0.32	2.52 ±11.6	0.22
	1.28(1.12-10.35)	1.21(1.0-2.44)	1.2(0.94-110.0)	
PT (s)	27.00 ±29.39	15.54 ±3.58	15.13 ±3.30	0.17
	15.15(13.30-108.8)	14.4(12.0-27.8)	14.2(11.3-27.7)	
Procalcitonin (ng/mL)	7.36 ±11.22	17.35 ±25.21	3.57 ±11.93#	**0.02**
	0.77(0.12-35.00)	6.95(0.12-100.0)	0.26(0.12-88.0)	
ESR (mm/h)	11.87 ±12.38	40.38 ±23.92	52.25 ±33.56*	**0.00**
	6.00(2.0-36.00)	39.0(4.0-80.0)	52.0(2.0-139.0)	
Troponin I (ng/L)	503.8 ±973.44	116.03 ±399.5	124.0 ±387.97	0.15
	10.0(10.0-2500.0)	10.0(10.0-2200.0)	12.0(10.0-2900.0)	
aPTT (s)	34.51 ±9.87	35.17 ±8.65	35.13 ±8.82	0.59
	32.1(22.0-49.2)	35.15(12.0-51.7)	33.3(22.1-63.5)	
LCR	0.09 ±0.21	0.04 ±0.07	0.04 ±0.08	0.21
	0.03(0.01-0.83)	0.02(0.00-0.29)	0.02(0.00-0.61)	
SII	927.4 ±1150.0	2337.0 ±3777.5	1038.6 ±1287.3#	**0.03**
	534.2(166.1-4958.3)	797.4(56.3-23843.8)	582.3(67.23-8885.3)	

Note: Data are expressed as mean ± SD and median (minimum-maximum). *$P < 0.05$, *vs.* spring; #$P < 0.05$, *vs.* summer (Mann-Whitney *U* test). aPTT: activated partial prothrombin time; CRP: C-reactive protein; ESR: erythrocyte sedimentation rate; INR: international normalized ratio; LCR: lymphocyte to C-reactive protein ratio; PT: prothrombin time; SII: systemic immune-inflammation index.

Additional Table 6: Differences in inflammatory, cardiac and coagulation biomarkers between the groups on admission

	Reference range	**Non-ICU**				**ICU**				***P*-value**
		Decreased	**Normal**	**Increased**	**Total**	**Decreased**	**Normal**	**Increased**	**Total**	
CRP (mg/L)	0-5	NA	3.02 (3.02-3.14)	24.30 (11.40-55.75)	10.20 (3.14-34.0)	NA	3.02 (3.02-3.02)	81.50 (37.00-139.00)	79.0 (30.05-138.0)	**0.00**
			1378/3610 (38.2)	2232/3610 (61.8)	3610/3800 (95.0)		17/190 (8.9)	173/190 (91.1)	190/3800 (5.0)	
				4.86 (fold)				16.3 (fold)		

D-Dimer (μg/L)	80–583	45.77 (32.99-64.93)	341.06 (241.0-444.0)	993.5 (739.2-1665.0)	541.8 (320.0-954.0)	NA	371.0 (353.0-408.0)	1640.0 (1082.0-1365.0 (989.1-3982.0)		**0.00**
		20/1651 (1.2)	862/1651 (52.2)	769/1651 (46.6)	1651/1710 (96.5)		5/59 (8.5)	4495.2)	59/1710 (3.5)	
		0.57 (fold)		1.70 (fold)				54/59 (91.5)		
								2.81 (fold)		
Ferritin (mL/ng)	Male	14.70 (10.70-19.30)	130.10 (79.2-213.4)	541.7 (410.7-776.0)	220.9 (101.5-434.3)	10.10 (4.22-16.30)	188.9 (135.7-242.2)	855.3 (540.3-1160.6)	570.6 (294.6-1050.9)	**0.00**
	22-322	97/2705 (3.6)	1631/2705 (60.3)	977/2705 (36.1)	2705/2806 (96.4)	3/101 (3.0)	25/101 (24.8)	73/101 (72.3)	101/2806 (3.6)	
		0.67 (fold)		1.68 (fold)		0.46 (fold)		2.67 (fold)		
	Female	6.75 (5.10-8.30)	81.10 (33.60-150.50)	454.05 (349.50-654.0)	90.50 (32.0-197.2)	NA	117.90 (38.4-171.0)	529.85 (441.9-706.9)	207.9 (105.4-463.8)	**0.00**
	10-291	82/1311 (6.3)	1039/1311 (79.3)	190/1311 (14.5)	1311/1372 (95.6)		35/61 (57.4)	26/61 (42.6)	61/1372 (4.4)	
		0.67 (fold)		1.56 (fold)				1.82 (fold)		
Fibrinogen (mg/dL)	180–450	160.66 (134.71-321.10 (290.70-486.28 (472.56-327.8 (293.7-370.35)				137.6 (137.6-137.6)	353.5 (317.9-379.1)	480.0 (466.15-493.64)	359.7 (321.1-392.5)	**0.00**
		172.56)	357.52)	501.36)	2263/2369 (95.4)	1/109 (0.9)	98/109 (89.9)	10/109 (9.2)	109/2369 (4.6)	
		24/2260 (1.1)	2039/2260 (90.2)	197/2260 (8.7)		0.76 (fold)		1.07 (fold)		
		0.89 (fold)		1.08 (fold)						
INR	0.6-1.2	NA	1.08 (1.04-1.13)	1.31 (1.25-1.46)	1.10 (1.04-1.17)	NA	1.12 (1.08-1.17)	1.38 (1.26-1.66)	1.20 (1.12-1.38)	**0.00**
			1161/1426 (81.4)	265/1426 (18.6)	1426/1561 (91.4)		68/135 (50.4)	67/135 (49.6)	135/1561 (8.6)	
				1.09 (fold)				1.15 (fold)		
PT (second)	10.1-15.9	9.70 (9.40-10.0)	13.00 (12.4-13.7)	17.8 (16.6-21.6)	13.1 (12.5-13.9)	NA	13.90 (13.00-14.70)	18.9 (17.10-22.40)	14.3 (13.2-16.0)	**0.00**
		2/1426 (0.1)	1311/1426 (91.9)	113/1426 (7.9)	1426/1561 (91.4)		100/135 (74.1)	35/135 (25.9)	135/1561 (8.6)	
		0.96 (fold)		1.12 (fold)				1.19 (fold)		
Procalcitonin (ng/mL)	< 0.15	NA	0.12 (0.12-0.12)	0.35 (0.20-12.00)	0.12 (0.12-0.12)	NA	0.12 (0.12-0.12)	1.5 (0.32-14.00)	0.39 (0.13-6.5)	**0.00**
			1832/2337 (78.4)	505/2337 (21.6)			29/105 (27.6)	76/105 (72.4)		
				2.33 (fold)				10 (fold)		
ESR (mm/hour)	0-20	NA	10.00 (4.00-15.00)	41.0 (31.0-60.0)	20.0 (10.0-41.0)	NA	9.50 (4.00-14.00)	58.00 (39.00-78.50)	45.5 (18.0-68.0)	**0.00**
			941/1846 (51.0)	905/1846 (49.0)	1846/1944 (95.0)		26/98 (26.5)	72/98 (73.5)	98/1944 (5.0)	
				2.05 (fold)				2.9 (fold)		
Troponin I (ng/L)	10-23	1.0 (1.0-1.0)	10.0 (10.0-10.0)	54.5 (41.5-130.0)	10.0 (10.0-10.0)	NA	10.0 (10.0-10.0)	135.0 (54.0-360.0)	10.0 (10.0-51.0)	**0.00**
		1/2102 (0.0)	2020/2102 (96.1)	81/2102 (3.9)	2102/2212 (95.0)		73/110 (66.4)	37/110 (33.6)	110/2212 (5.0)	
		0.1 (fold)		2.37 (fold)				5.87 (fold)		
aPTT (second)	22-45	20.10 (14.90-20.90)	32.8 (29.5-36.5)	52.75 (48.5-59.0)	33.4 (29.9-38.4)	12.0 (12.0-12.0)	33.3 (29.2-37.3)	51.7 (47.8-56.6)	34.5 (29.4-40.2)	0.88
		8/1357 (0.6)	1201/1357 (88.5)	148/1357 (10.9)	1357/1475 (92.0)	2/118 (1.7)	103/118 (87.3)	13/118 (11.0)	118/1475 (8.0)	
		0.91 (fold)		1.17 (fold)		0.54 (fold)		1.15 (fold)		
LCR	-	NA	NA	NA	0.13 (0.04-0.36)	NA	NA	NA	0.02 (0.01-0.04)	**0.00**
SII		NA	NA	NA	547.0 (316.0-1161.3)	NA	NA	NA	609.0 (336.1-1428.7)	0.10

Note: Data are expressed as median (interquartile range), number (percentage) and fold to reference range, and were anazluezed by Mann-Whitney *U* test. aPTT: activated partial prothrombin time; CRP: C-reactive protein; ESR: erythrocyte sedimentation rate; INR: international normalized ratio; IQR: interquartile range; LCR: lymphocyte to C-reactive protein ratio; NA: not

applicable; PT: prothrombin time; SII: systemic immune-inflammation index.