

Appendix 1. Plasma concentration of 39 cytokines of each classification

Mean \pm SD concentration of 19 cytokines (pg/ml)							
cytokine	Control	DM	NDR	NPDR	PDR	P ₁	P ₂
	n=19	n=59	n=19	n=19	n=21		
EGF	45.7 \pm 49.9	38.3 \pm 37.6	48.1 \pm 50.6	40.8 \pm 30.2	26.1 \pm 25.8	0.497	0.346
Eotaxin	131.9 \pm 42.8	140.5 \pm 54.5	150.4 \pm 41.0	135.8 \pm 52.5	135.1 \pm 68.1	0.535	0.704
FGF-2	20.1 \pm 16.2	18.7 \pm 16.4	18.1 \pm 10.2	13.8 \pm 9.5	23.7 \pm 23.5	0.771	0.519
Fractalkine	62.4 \pm 56.7	47.2 \pm 29.6	46.4 \pm 22.6	47.4 \pm 28.2	47.6 \pm 36.7	0.135	0.915
G-CSF	19.6 \pm 12.7	21.4 \pm 11.3	20.0 \pm 9.7	23.2 \pm 13.2	21.0 \pm 11.1	0.555	0.780
GM-CSF	4.0 \pm 3.0	4.4 \pm 3.6	4.0 \pm 2.7	4.3 \pm 2.3	4.9 \pm 5.0	0.612	0.836
GRO	212.2 \pm 108.2	195.0 \pm 97.7	165.4 \pm 75.7	204.3 \pm 96.8	213.5 \pm 113.2	0.517	0.401
IFN- α 2	28.2 \pm 14.6	21.2 \pm 12.4	21.8 \pm 7.9	22.8 \pm 15.8	19.1 \pm 12.2	0.050	0.202
IFN- γ	3.7 \pm 5.6	2.9 \pm 2.8	3.2 \pm 2.5	2.6 \pm 2.6	2.9 \pm 3.2	0.400	0.803
IL-8	13.9 \pm 22.9	6.5 \pm 9.4	6.0 \pm 5.0	4.5 \pm 2.7	8.9 \pm 15.2	0.546	0.847
IL-12(P70)	2.5 \pm 3.2	2.5 \pm 1.6	3.1 \pm 1.7	2.5 \pm 1.6	2.0 \pm 1.4	0.937	0.405
IP-10	504.3 \pm 231.1	453.9 \pm 239.5	473.2 \pm 348.2	426.8 \pm 179.6	460.6 \pm 170.4	0.426	0.804
↑ MCP-1	256.5 \pm 73.2	315.3 \pm 98.6	318.6 \pm 82.0	290.9 \pm 69.1	334.2 \pm 130.6	0.020*	0.061
MCP-3	5.51 \pm 2.4	5.3 \pm 3.0	5.3 \pm 2.7	4.9 \pm 2.0	5.6 \pm 4.0	0.776	0.880
MDC	781.9 \pm 276.3	902.7 \pm 367.9	968.7 \pm 343.0	828.6 \pm 353.5	910.1 \pm 405.8	0.183	0.360
MIP-1 β	41.4 \pm 19.4	35.5 \pm 17.4	36.5 \pm 12.9	32.0 \pm 11.6	37.7 \pm 24.6	0.213	0.464
TGF- α	4.5 \pm 3.0	3.6 \pm 4.0	2.3 \pm 3.1	4.2 \pm 4.1	4.1 \pm 4.4	0.370	0.535

TNF- α	9.5 \pm 2.0	8.8 \pm 4.0	7.1 \pm 1.8	8.1 \pm 4.2	11.1 \pm 4.5	0.541	0.005*
VEGF	44.6 \pm 23.2	61.7 \pm 70.9	52.2 \pm 43.2	57.5 \pm 80.9	73.9 \pm 82.3	0.334	0.797

Mean rank of 20 cytokines ^a

cytokines	Control	DM	NDR	NPDR	PDR	P ₁	P ₂
	n=19	n=59	n=19	n=19	n=21		
↓ Flt-3L	53.0	35.1	36.6	30.2	38.3	0.001*	0.008*
IL-1 α	46.5	37.3	37.8	38.6	36.0	0.093	0.396
IL-1 β	38.8	34.3	40.0	41.4	38.0	0.854	0.953
↓ IL-1 Ra	56.4	34.0	27.6	33.9	40.0	0.000*	0.000*
IL-2	46.5	37.3	46.2	29.6	36.0	0.093	0.030*
↓ IL-3	55.6	34.3	26.0	38.9	37.6	0.000*	0.000*
IL-4	42.7	38.5	42.0	42.0	32.1	0.450	0.314
↓ IL-5	57.0	33.9	30.0	33.0	38.0	0.000*	0.000*
↑ IL-6	22.4	45.0	51.7	40.0	43.5	0.000*	0.000*
↑ IL-7	22.5	45.0	49.5	43.5	42.2	0.000*	0.000*
↑ IL-9	27.2	43.4	47.2	41.4	41.9	0.002*	0.016*
IL-10	31.2	42.1	44.7	40.2	41.6	0.050	0.232
↓ IL12(p40)	59.5	33.0	28.1	34.2	36.5	0.000*	0.000*
↑ IL-13	22.6	45.0	49.8	44.0	41.5	0.000*	0.000*
↑ IL-15	20.0	45.8	50.8	44.6	42.3	0.000*	0.000*
↑ IL-17	27.3	43.4	49.5	45.4	36.1	0.004*	0.006*
MIP1 α	47.1	37.0	43.6	33.4	34.4	0.067	0.103

↑ sCD40L	28.2	43.1	40.6	47.2	41.8	0.007*	0.041*
↑ sIL2R α	31.1	42.2	47.7	39.6	39.6	0.049*	0.123
↑ TNF- β	23.8	44.6	54.2	41.2	38.9	0.000*	0.000*

* P value was significant($p < 0.05$).

^a The data of the concentrations of the 20 cytokines was categorical variable, the mean rank was used to describe the data.

P₁ P values between control and DM.

P₂ P values among control, NDR, NPDR and PDR.

↑ Significantly increased in DM group compared to the control

↓ Significantly decreased in DM group compared to the control