

Title: Microplastics in the lung tissues associated with blood test index

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Supplementary Materials

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Table S1. Characteristics of MPs exposure in the lung tissue and control samples.

Sample ID	MPs abundance	Weight of sample (g)	Concentrations (particles/g) ^b	Average Diameter (μm)	Lung tissue portion	20-100 (μm)			100-500 (μm)		
						Type	Number	Fiber ^c	Type	Number	Fiber ^c
1	4	1.96	2.04	60.70	Right superior lobe	PP	2	1			
2	3	2.49	1.20	86.82	Left inferior lobe	PET	2				
						EVA	1				
3	32	1.82	17.58	43.88	Left superior lobe	PET	1				
						PP	24	12	PU	1	
									PP	2	2
						BR	3	1			
4	4	3.79	1.06	62.69	Right inferior lobe	CPE	2				
						ACR	1				
						PET	2				
						PU	1	1			
5	15	1.93	7.77	67.79	Left superior lobe				PVC	1	
						PET	5		PET	1	
						ACR	2				
						PS	2				
						EVA	1		EVA	1	
						PE	1				
6	6	2.04	2.94	30.79	Right inferior lobe	PVC	1				
									PP	1	
						CPE	4				
						ACR	1				
						PET	1				

7	1	1.84	0.54	31.92	Left inferior lobe	PVC	1			
8	3	1.99	1.51	73.83	Left inferior lobe	PP	1			
						PET	1			
9	0	1.89	0.00		Left superior lobe	ACR	1			
10	4	1.71	2.34	41.18	Left inferior lobe	PP	2			
						PVC	1			
						SIL	1			
11	16	1.69	9.47	58.80	Left superior lobe	PET	7	PET	1	1
						PS	4			
						PP	3			
						PVC	1			
12	20	3.84	5.21	65.91	Right inferior lobe	PTFE	5	PTFE	2	
						PE	4			
						PS	3	1		
						PET	2			
						PP	1	PP	1	
						PVC	1	PVC	1	
control1	0	5.00	0.00	-		-	-	-	-	
control2	5	5.00	1.00	56.81		PU	3			
						PP	1	PP	1	
control3	2	5.00	0.40	31.11		EPN	1			
						PET	1			

Note: MPs: microplastics, PP: polypropylene, PET: polyethylene terephthalate, PS: polystyrene, PVC: polyvinylchloride, PTFE: polytetrafluoroethylene, CPE: chlorinated polyethylene, PE: polyethylene, ACR: acrylates, EVA: ethylene vinyl acetate, BR: butadiene rubber, PU: polyurethane, SIL: silicone, EPN: phenolic epoxy resin.

^a MPs with a match degree ≥ 0.80 were included.

^b The concentrations of MPs (particles/g) were calculated by dividing the quantity of MPs by the weight of the relevant lung tissue sample or control sample.

^c Fibers were defined as MPs with length-to-diameter ratios ≥ 3 .

Table S2. Information of each patient.

Sample ID	1	2	3	4	5	6	7	8	9	10	11	12
Sex	Female	Male	Female	Male	Female	Male	Male	Male	Male	Male	Female	Female
Age, years	29	55	69	57	49	50	60	67	43	59	64	59
Wearing of face masks, hours per day	2.5	9	3.5	1	2.5	12	2	6	9	2.5	5	8
Educational level	Junior college	Senior high school	illiteracy	Junior college	Junior high school	Senior high school	Senior high school	Primary school	Junior college	Senior high school	college	Primary school
BMI level	18.80	25.54	25.32	25.86	30.28	22.15	27.58	23.21	26.22	22.44	23.23	25.13
Seafood consumption, times per week	4~6	1~3	1~3	4~6	1~3	1~3	7	1~3	4~6	1~3	<1	7
Traffic pollution exposure time, minutes per day	30~60	30~60	<10	30~60	10~30	60~120	<10	10~30	<10	<10	<10	<10
Distance between residence and nearest major roads, meter	500~1000	300~500	≥1000	≥1000	50~100	50~100	300~500	≥1000	300~500	100~300	50~100	100~300
Working indoors	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	N

(Y/N)

Alcohol consumption (Y/N)	N	Y	N	N	N	N	N	N	N	N	Y	N
Self-cooking (Y/N)	Y	Y	Y	N	N	N	N	Y	N	Y	N	Y
Hypertension (Y/N)	N	N	Y	N	N	N	Y	N	N	N	N	Y
Diabetes (Y/N)	N	N	N	N	N	N	N	N	N	N	N	Y
Coronary heart disease (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N
Lung or upper- airway surgeries (Y/N)	N	N	N	N	N	N	N	N	N	N	N	N

Table S3. Correlation coefficients of MPs in the lung tissues and blood test index.

Blood test index	Correlation coefficient	<i>p</i> -value^b
WBC ($\times 10^9/L$)	0.32	0.31
RBC ($\times 10^9/L$)	-0.57	0.06
HGB (g/L)	-0.57	0.05
PLT ($\times 10^9/L$)	0.78	< 0.01
Hematocrit (%)	-0.57	0.05
MCV (fL)	0.15	0.64
Mean red cell hemoglobin content (pg)	-0.25	0.43
MCHC (g/L)	-0.35	0.26
RDW SD (fL)	0.27	0.39
RDW CV (%)	< 0.01	0.99
N ($\times 10^9/L$)	0.20	0.53
L ($\times 10^9/L$)	0.04	0.90
N / L	0.08	0.81
MON# ($\times 10^9/L$)	-0.03	0.93
EOS# ($\times 10^9/L$)	0.36	0.26
Thrombocytocrit (%)	0.82	< 0.01
PDW (fL)	-0.18	0.57
MPV (fL)	-0.20	0.53
PT (S)	0.01	0.98
APTT (S)	-0.13	0.69
FIB (g/L)	0.63	0.03
Urea (mmol/L)	-0.41	0.19
Cr ($\mu\text{mol/L}$)	-0.40	0.19
UA ($\mu\text{mol/L}$)	-0.38	0.23
K ⁺ (mmol/L)	-0.15	0.64
Na ⁺ (mmol/L)	0.48	0.11
Cl ⁻ (mmol/L)	0.14	0.67
GLU (mmol/L)	< 0.01	1.00
AST (U / L)	-0.43	0.17
ALT (U / L)	-0.11	0.73
TB ($\mu\text{mol/L}$)	-0.66	0.02
DB ($\mu\text{mol/L}$)	-0.78	< 0.01
Hemobilirubin ($\mu\text{mol/L}$)	-0.62	0.03
TP (g/L)	0.22	0.48
Albumin (g/L)	-0.06	0.86
Globulin (g/L)	0.38	0.23

Note: MPs: microplastics, WBC: white blood cell, RBC: red blood cell, HGB: hemoglobin, PLT: platelet, MCV: mean corpuscular volume, MCHC: mean corpuscular-hemoglobin concentration, RDW: red blood cell volume distribution width, N: neutrophil, L: lymphocyte, MON#: monocyte, EOS#: eosinophil, PDW: platelet distribution width, MPV: mean platelet volume, PT: prothrombin time, APTT: activated partial thromboplastin time, FIB: fibrinogen, Cr: Creatinine, UA: blood uric acid, GLU: glucose, AST: aspartate aminotransferase, ALT:

alanine aminotransferase , TB: total bilirubin, DB: direct bilirubin, TP: total protein.

^a MPs with a match degree ≥ 0.80 were included.

^b The p -value was estimated using the Mann–Whitney U test.