

Supplementary Table 1. Case-control comparison of mean element levels in nails.

Element	Controls	ALS patients	univariate p-value
	n=210 log ₁₀ mean (SD)	n=70 log ₁₀ mean (SD)	
Hg	-1.03 (0.50)	-1.13 (0.58)	0.14
As	-1.29 (0.27)	-1.29 (0.29)	0.98
Cd	-2.21 (0.46)	-2.23 (0.43)	0.72
Co	-2.14 (0.45)	-2.11 (0.43)	0.59
Cr	-0.65 (0.61)	-0.68 (0.58)	0.69
Cu	0.56 (0.14)	0.60 (0.15)	0.087
Fe	1.12 (0.36)	1.09 (0.42)	0.58
Mn	-0.73 (0.47)	-0.73 (0.47)	0.97
Pb	-1.01 (0.41)	-0.98 (0.45)	0.60
Se	-0.02 (0.08)	-0.02 (0.07)	0.77

*Adjusted for age and smoking.

Supplementary table 2. Case-control comparison of element levels in nails categorized above vs. below the 90th percentile.

Element	≥90th percentile log ₁₀ ug/g	Controls	ALS patients	univariate p-value
		n=210 n (%)	n=70 n (%)	
Hg	< -0.42	195 (92.9)	57 (81.4)	0.011
	≥ -0.42	15 (7.1)	13 (18.6)	
As	< -0.94	191 (91.0)	61 (87.1)	0.49
	≥ -0.94	19 (9.0)	9 (12.9)	
Cd	< -1.67	189 (90.0)	63 (90.0)	1
	≥ -1.67	21 (10.0)	7 (10.0)	
Co	< -1.62	189 (90.0)	63 (90.0)	1
	≥ -1.62	21 (10.0)	7 (10.0)	
Cr	< 0.0020	190 (90.5)	62 (88.6)	0.82
	≥ 0.0020	20 (9.5)	8 (11.4)	
Cu	< 0.75	193 (91.9)	59 (84.3)	0.11
	≥ 0.75	17 (8.1)	11 (15.7)	
Fe	< 1.54	185 (88.1)	67 (95.7)	0.11
	≥ 1.54	25 (11.9)	3 (4.3)	
Mn	< -0.14	191 (91.0)	61 (87.1)	0.49
	≥ -0.14	19 (9.0)	9 (12.9)	
Pb	< -0.49	191 (91.0)	61 (87.1)	0.49
	≥ -0.49	19 (9.0)	9 (12.9)	
Se	< 0.075	188 (89.5)	64 (91.4)	0.82
	≥ 0.075	22 (10.5)	6 (8.6)	

Female controls with
trace element data
n=1216 (<age 67)

3:1 matched to ALS
patients on age
N=210

ALS patients
2013-2015
n=330

Females n=112

- N=33 not assessed
- N=84 trace element data
 - **N=70** (<age 67)

Males n=218