

Serum iron parameters, HFE C282Y genotype, and cognitive performance in older adults: results from the FACIT study

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TABLE 1Baseline characteristics of the study population according to *HFE* C282Y genotype

	Total sample	<i>HFE</i> C282Y non-carriers	<i>HFE</i> C282Y carriers	<i>p</i> *
<i>n</i>	818	685	80	
Age (years)	60.3 ± 5.6	60.3 ± 5.6	59.8 ± 5.6	0.508
Female sex (%)	28.4	27.9	30.0	0.690
Level of education, low/middle/high (%)	22.4 / 38.1 / 39.5	21.8 / 38.4 / 39.9	28.8 / 31.2 / 40.0	0.282
Alcohol consumption (g/day) [†]	12.5 (4.4; 23.5)	12.5 (4.4; 23.4)	14.3 (3.7; 26.1)	0.447
Current smoker (%)	20.4	20.0	23.8	0.431
BMI (kg/m ²)	26.6 ± 3.6	26.5 ± 3.6	26.6 ± 3.5	0.846
Physical activity (PASE score)	152.8 ± 68.6	153.3 ± 69.3	153.1 ± 65.4	0.981
Blood donor, current/former/never (%)	54.2 / 14.7 / 31.2	54.5 / 14.7 / 30.8	53.8 / 15.0 / 31.2	0.993
<i>APOE</i> E4 alleles, 0/1/2 (%) [§]	67.9 / 29.2 / 2.8	69.4 / 28.0 / 2.6	58.8 / 38.8 / 2.5	0.134
Serum C-reactive protein (mg/dL) ^{†,¶}	1.1 (0.6; 2.3)	1.1 (0.6; 2.3)	1.1 (0.6; 2.1)	0.956
Serum hemoglobin (mmol/L)	8.9 ± 0.7	8.9 ± 0.7	9.0 ± 0.7	0.088
Serum iron parameters				

Serum iron ($\mu\text{mol/L}$)	18.5 ± 6.4	18.2 ± 6.2	21.4 ± 7.3	<0.001
Total iron binding capacity ($\mu\text{mol/L}$)	60.0 ± 8.1	60.4 ± 8.1	56.9 ± 7.8	<0.001
Transferrin saturation (%)	31.4 ± 11.5	30.6 ± 10.8	38.7 ± 15.8	<0.001
Ferritin ($\mu\text{g/L}$) [†]	67.0 (35.0; 131.0)	65.0 (34.0; 125.0)	86.5 (47.8; 138.8)	0.063
Non-transferrin bound iron ($\mu\text{mol/L}$) [#]	2.4 ± 0.9	2.4 ± 0.9	2.8 ± 1.0	<0.001

Note: Values are means \pm SD. BMI, body mass index; PASE, Physical Activity Scale for the Elderly.

* *P*-values for the differences between carriers and non-carriers of the *HFE* C282Y mutation using Chi-square tests, independent samples *t* tests, or non-parametric Mann-Whitney tests.

[†] Median value (interquartile range) is given because of skewed data distribution.

[§] *n*=814 in the total sample, *n*=682 in *HFE* C282Y non-carriers, and *n*=80 in *HFE* C282Y carriers.

[¶] *n*=803 in the total sample, *n*=678 in *HFE* C282Y non-carriers, and *n*=78 in *HFE* C282Y carriers.

[#] *n*=808 in the total sample, *n*=678 in *HFE* C282Y non-carriers, and *n*=78 in *HFE* C282Y carriers.

TABLE 2

Serum iron parameters in carriers and non-carriers of the *HFE* C282Y mutation at baseline, stratified by *APOE* E4 carrier status

Serum iron parameters	<i>HFE</i> C282Y non-carriers			<i>HFE</i> C282Y carriers		
	<i>APOE</i> E4 non-carriers	<i>APOE</i> E4 carriers	<i>p</i> *	<i>APOE</i> E4 non-carriers	<i>APOE</i> E4 carriers	<i>p</i>
<i>n</i>	473	209		47	33	
Serum iron (μmol/L)	18.2 ± 6.5	18.1 ± 5.8	0.966	21.2 ± 7.7	21.6 ± 6.9	0.819
Total iron binding capacity (μmol/L)	60.5 ± 8.2	60.2 ± 7.7	0.691	55.5 ± 6.4	58.8 ± 9.2	0.064
Transferrin saturation (%)	30.6 ± 11.1	30.6 ± 9.9	0.958	39.0 ± 16.3	38.4 ± 15.3	0.862
Ferritin (μg/L) [†]	67.0 (35.0; 131.0)	63.0 (30.0; 119.0)	0.251	91.0 (50.0; 139.0)	79.0 (26.0; 147.0)	0.479
Non-transferrin bound iron (μmol/L) [§]	2.4 ± 0.9	2.4 ± 0.8	0.369	2.8 ± 1.0	2.9 ± 1.1	0.661
Hemoglobin (mmol/L)	8.9 ± 0.7	8.8 ± 0.6	0.086	9.1 ± 0.6	9.0 ± 0.7	0.728

Note: Values are means ± SD.

* *P*-value for independent samples *t* tests or non-parametric Mann-Whitney tests.

[†] Median value (interquartile range) is given because of skewed data distribution.

[§] *HFE* C282Y−/*APOE* E4−, *n*=469; *HFE* C282Y−/*APOE* E4+, *n*=206; *HFE* C282Y+/*APOE* E4−, *n*=46; *HFE* C282Y+/*APOE* E4+, *n*=32.