Table 1. Comparison of the Subject Characteristics and Laboratory Profile According to the MHR

	All cases (n = 2485)	MHR Tertile			p value
		T1 (n = 829) 1.700-5.549	T2 (n = 828) 5.550-8.042	T3 (n = 828) 8.043-37.488	
Age (years)	59.9 ± 7.0	59.8 ± 6.8	59.6 ± 7.0	60.2 ± 7.1	0.299
Cardiometabolic Risk					
Body mass index (kg/m^2)	24.1 ± 3.3	22.7 ± 2.7	24.1 ± 2.9 [c]	25.5 ± 3.6 [c, e]	< 0.0001
Waist circumference (cm)	85.9 ± 8.8	82.1 ± 7.6	86.0 ± 7.8 [c]	89.6 ± 9.3 [c, e]	< 0.0001
Metabolic syndrome, n (%)	496 (20.0)	58 (7.0)	153 (19.7)	275 (33.2)	< 0.0001
HbA1c (%)	5.85 ± 0.71	5.68 ± 0.47	5.85 ± 0.65 [c]	6.03 ± 0.91 [c, e]	< 0.0001
LDL-C (mg/dL)	123 ± 27	120 ± 27	124 ± 26 [d]	125 ± 28 [c]	< 0.0001
HDL-C (mg/dL)	59 ± 15	71 ± 14	58 ± 9.8 [c]	48 ± 8.8 [c, e]	< 0.0001
*TG (mg/dL)	97 (70/145)	76 (57/104)	98 (71/134) [c]	126 (92/179) [c, e]	< 0.0001
non-HDL-C (mg/dL)	148 ± 30	142 ± 29	148 ± 30 [c]	153± 31 [d, e]	< 0.0001
Systolic blood pressure (mmHg)	125 ± 15	124 ± 15	125 ± 15	126 ± 15	0.114
Diastolic blood pressure (mmHg)	80 ± 11	80 ± 11	80 ± 11	81 ± 11	0.584
Drug treatment, n (%)					
Hypertension, n (%)	554 (22.3)	147(17.7)	184 (22.2)	223 (26.9)	< 0.0001
Diabetes mellitus, n (%)	169 (6.3)	26 (3.1)	66 (8.0)	77 (9.3)	< 0.0001
Hyperuricemia, n (%)	176 (7.1)	58 (7.0)	55 (6.6)	63 (7.6)	0.740
WBC count and Inflammatory marker					
*WBC count (cell/µl)	4900 (4100/5700)	4100 (3600/4700)	4800 (4200/5500)	5800 (5100/6700) [f, c]	< 0.0001
*Neutrophil count (cell/µl)	2776 (2196/3454)	2270 (1858/2808)	2557 (2263/3357) [a]	3341 (2803/4098) [a]	< 0.0001
*Lymphocyte count (cell/µl)	1441 (1186/1736)	1296 (1084/1528)	1424 (1187/1697)	1617 (1349/1969)	0.316
*Monocyte count (cell/µl)	381 (314/461)	297 (257/342)	380 (339/428)	486 (426/565) [b, d]	0.004
*C-reactive protein (mg/dL)	0.05 (0.03/0.1)	0.03 (0.02/0.06)	0.04 (0.03/0.08) [c]	0.08 (0.04/017) [f, c]	< 0.0001
Lifestyle behavior					
Frequency of fish intake (days/week)	2.57 ± 1.37	2.75 ± 1.44	2.47 ± 1.32 [e]	2.50 ± 1.32 [b]	< 0.0001

Cigarette smoking habit, n (%)	474 (19.1%)	98 (11.8)	149 (18.0)	227 (27.0)	< 0.0001
Aerobic exercise habit, n (%)	750 (30.2)	287 (34.6)	242 (29.2)	221 (26.7)	0.002
Alcohol intake (g/week)	121 ± 122	139 ± 124	119 ± 121 [b]	106 ± 119 [c]	< 0.0001

Hb = hemoglobin; LDL-C = low-density lipoprotein cholesterol; HDL = high-density lipoprotein; TG = triglyceride; WBC = white blood cell. Frequency of fish intake indicates the average number of days of fish intake per week. Aerobic exercise habit was defined as performing aerobic exercise more than 30 minutes at least twice per week. The average weekly alcohol intake was calculated from the number of alcohol drinks consumed per week and the amount of alcohol consumption per drink (ethanol equivalent [g/week]).

ANOVA and post hoc tests with Turkey-Kramer correction were performed to test between-group differences.

*Kruskal-Wallis test and post hoc tests with Bonferroni correction were performed to test between-group differences.

[a] $p < 0.05$, [b] $p < 0.01$, [c] $p < 0.0001$ vs. T1

[d] $p < 0.05$, [e] $p < 0.01$, [f] $p < 0.0001$ vs. T2

Table 2. Multiple Stepwise Regression Analysis to Identify Factors Influencing the NLR, Monocyte Count, and HDL-C level

Model 1. Dependent variable: log MHR n =2485

	β	p value
Age	0.049	0.008
Waist circumference	0.382	< 0.0001
Cigarette smoking habit	0.195	< 0.0001
Aerobic exercise habit	-0.044	0.014
Alcohol intake	-0.142	< 0.0001
Treatment for diabetes mellitus	0.059	0.001
Frequency of fish intake	**-0.062**	**0.001**

Multiple R = 0.467, F = 98.565, p < 0.0001

Model 2. Dependent variable: log Monocyte count n =2485

	β	p value
Age	0.085	< 0.0001
Waist circumference	0.230	< 0.0001
Cigarette smoking habit	0.190	< 0.0001
Treatment for diabetes mellitus	0.066	0.001
Frequency of fish intake	**-0.056**	**0.004**

Multiple R = 0.327, F = 59.294, p < 0.0001

Model 3. Dependent variable: Serum HDL-C Level n =2485

	β	p value
Waist circumference	-0.376	< 0.0001
Cigarette smoking habit	-0.107	< 0.0001
Aerobic exercise habit	0.052	0.004
Alcohol intake	0.273	< 0.0001
Frequency of fish intake	**0.044**	**0.015**

Multiple R = 0.474, F = 143.355, p < 0.0001

MHR = Monocyte/high-density lipoprotein cholesterol ratio; β = standard partial regression coefficient

Frequency of fish intake indicates the average number of days of fish intake per week. Aerobic exercise habit was defined as performing aerobic exercise more than 30 minutes at least twice per week. The average weekly alcohol intake was calculated from the number of alcohol drinks consumed per week and the amount of alcohol consumption per drink (ethanol equivalent [g/week])).

Since the waist circumference and body mass index are well known to be highly correlated with each other, waist circumference, which is a better indicator of visceral obesity than the body mass index and also serves as an indicator of energy intake, was entered into the multiple stepwise regression analysis models as an independent variable.