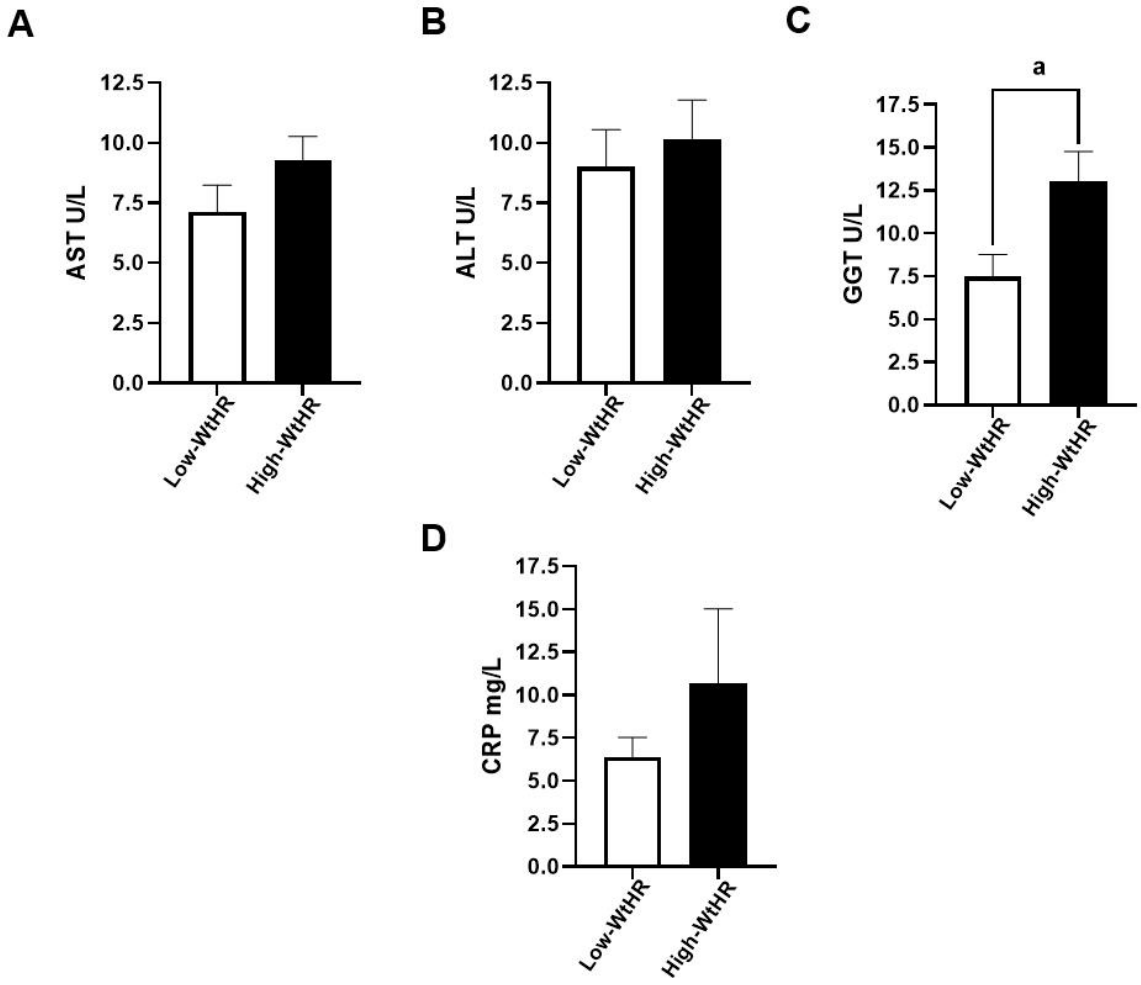

Supplementary Figure 1 Determination of the levels of aspartate aminotransferase, alanine aminotransferase, gamma glutamyl transferase and C-reactive protein. Peripheral blood was collected from individuals with a waist-to-height ratio (WtHR) <0.5 (Low-WtHR; n = 8) and individuals with a WtHR > 0.5 (high-WtHR; n = 8). A-D: The samples were analyzed to determine aspartate aminotransferase (A), alanine aminotransferase (B), gamma glutamyl transferase (C) and C-reactive protein (D) using the ILab 300 plus equipment. The bar graphs indicate the mean ± SEM. $^{a}P < 0.05$ *vs* low-WtHR group.WtHR: Waist-to-height ratio; AST: Aspartate aminotransferase; ALT: Alanine aminotransferase; GGT: Gamma glutamyl transferase ; CRP: C-reactive protein.

Supplementary Table 1 Linear regression models assessing the association between waist-to-height ratio and metabolic or molecular outcomes after adjustment for sex

Predictor	Dependent outcome	B	SEM	β	*P* value
WtHR	HDL-C (adjusted for sex)	−104.30	30.95	−0.428	0.002
WtHR	TG/HDL-C ratio (adjusted for sex)	7.42	2.80	0.380	0.012
WtHR	Insulin	56.14	16.60	0.486	0.002
WtHR	HOMA-IR	14.42	3.88	0.527	0.001
WtHR	pJNK	6342.44	2338.22	0.587	0.017
WtHR	SERCA	1660.02	616.93	0.584	0.018

The table reports unstandardized coefficients (B), SEM, standardized coefficients (β), and *P* values. Linear regression analyses were performed using IBM SPSS Statistics for Windows, Version 21.0 (IBM Corp., Armonk, NY, United States). WtHR: Waist-to-height ratio; HDL-C: High-density lipoprotein cholesterol; TG: Triglyceride; HOMA-IR: Homeostatic Model Assessment for Insulin Resistance.

Supplementary Table 2 Linear regression models evaluating sex as an independent predictor of metabolic outcomes

Predictor	Dependent outcome	B	SEM	β	*P* value
Sex	HDL-C	13.92	4.04	0.437	0.001
Sex	TG/HDL-C ratio	−0.79	0.37	−0.310	0.037
Sex	Insulin	−0.20	2.23	−0.013	0.930
Sex	HOMA-IR	−0.24	0.51	−0.066	0.646

SPSS Statistics for Windows, Version 21.0 (IBM Corp., Armonk, NY, USA). Unstandardized coefficients (B), SEM, standardized coefficients (β), and *P* valuesare shown. Sex displayed significant associations with HDL cholesterol and

the triglyceride/high-density lipoprotein cholesterol ratio, whereas no significant effects were observed for fasting insulin or Homeostatic Model Assessment for Insulin Resistance. Linear regression analyses were performed using IBM SPSS Statistics for Windows, Version 21.0 (IBM Corp., Armonk, NY, United States). WtHR: Waist-to-height ratio; HDL-C: High-density lipoprotein cholesterol; TG: Triglyceride; HOMA-IR: Homeostatic Model Assessment for Insulin Resistance.