Supplementary Table SI. Prespecified rule-based classification of statin intensity.

Statin	Low intensity	Moderate intensity	High intensity
Atorvastatin	< 10 mg	10 to < 40 mg	≥ 40 mg
Rosuvastatin	< 5 mg	5 to < 20 mg	≥ 20 mg
Simvastatin	< 20 mg	≥ 20 mg	–
Pitavastatin	< 2 mg	≥ 2 mg	–

Statin intensity was classified using the recorded statin type and daily dose. The categories represent a simplified rule-based classification used to identify changes in treatment intensity within the available medication records. An increase or decrease in intensity was defined as movement to a higher or lower category, respectively. The em dash indicates that no high-intensity category was assigned for the respective statin. Combination with ezetimibe was assessed separately and did not alter the assigned statin-intensity category.

Supplementary Table SII. Recorded post-test lipid-lowering therapy changes, stratified by Lp(a) category

Outcome	**Lp(a) < 62 nmol/l (*n* = 18,440)**	**Lp(a) 62 to < 105 nmol/l (*n* = 1,381)**	**Lp(a) ≥ 105 nmol/l (*n* = 3,833)**	***P*-value**
Statin initiation, *n*/*N* (%)	339/18,440 (1.8%)	60/1,381 (4.3%)	364/3,833 (9.5%)	< 0.001
Any statin escalation, *n*/*N* (%)	429/18,440 (2.3%)	70/1,381 (5.1%)	446/3,833 (11.6%)	< 0.001
Ezetimibe initiation, *n*/*N* (%)	128/18,440 (0.7%)	24/1,381 (1.7%)	144/3,833 (3.8%)	< 0.001
Any LLT intensification, *n*/*N* (%)	497/18,440 (2.7%)	81/1,381 (5.9%)	505/3,833 (13.2%)	< 0.001

Treatment changes were identified by comparing the recorded medication states before and after the index Lp(a) measurement. Statin initiation was defined as a post-test statin record in a patient without a recorded pre-test statin. Any statin escalation included statin initiation, an increase in the recorded dose of the same statin, or a change to a higher statin-intensity category. Ezetimibe initiation was defined as a post-test ezetimibe record in a patient without recorded pre-test ezetimibe use. Any LLT intensification was defined as statin initiation, statin escalation, and/or ezetimibe initiation. Recorded treatment changes do not establish that the Lp(a) result directly prompted treatment modification.

LLT – lipid-lowering therapy, Lp(a) – lipoprotein(a).

Supplementary Table SIII. Sensitivity analysis of recorded post-test lipid-lowering therapy changes using lipoprotein(a) categories recommended by the Polish Cardiac Society and Polish Lipid Association

Panel A. Crude frequencies of recorded post-test treatment changes

Outcome	Lp(a) <75 nmol/L (N=18,887)	Lp(a) 75 to <125 nmol/L (N=1,544)	Lp(a) ≥125 nmol/L (N=3,223)	P value
Statin initiation, n/N (%)	350/18,887 (1.9%)	89/1,544 (5.8%)	324/3,223 (10.1%)	<0.001
Any statin escalation, n/N (%)	442/18,887 (2.3%)	103/1,544 (6.7%)	400/3,223 (12.4%)	<0.001
Ezetimibe initiation, n/N (%)	131/18,887 (0.7%)	35/1,544 (2.3%)	130/3,223 (4.0%)	<0.001
Any LLT intensification, n/N (%)	513/18,887 (2.7%)	116/1,544 (7.5%)	454/3,223 (14.1%)	<0.001

Panel B. Adjusted associations with recorded post-test treatment changes

Outcome	Lp(a) comparison	Adjusted OR (95% CI)	P value
Recorded LLT initiation	75 to <125 vs <75 nmol/L	4.17 (3.01–5.77)	<0.001
Recorded LLT initiation	≥125 vs <75 nmol/L	6.35 (5.07–7.95)	<0.001
Recorded LLT intensification	75 to <125 vs <75 nmol/L	3.55 (2.71–4.65)	<0.001
Recorded LLT intensification	≥125 vs <75 nmol/L	5.35 (4.49–6.38)	<0.001

Values in Panel A are n/N (%). P values were calculated using the chi-square test. In Panel B, values are adjusted odds ratios with 95% confidence intervals from complete-case multivariable logistic regression models, with Lp(a) < 75 nmol/L as the reference category. The LLT initiation model was restricted to patients without recorded baseline statin or ezetimibe use; the outcome was initiation of either treatment. Models of LLT initiation were adjusted for age, sex, BMI, ASCVD, current LDL-C, HDL-C, and triglycerides. Models of LLT intensification were additionally adjusted for baseline statin and ezetimibe use.

Abbreviations: ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CI, confidence interval; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; LLT, lipid-lowering therapy; Lp(a), lipoprotein(a); OR, odds ratio.

Supplementary Table SIV. Recorded statin deintensification according to lipoprotein(a) category

Outcome	Total	Lp(a) <62 nmol/L	Lp(a) 62 to <105 nmol/L	Lp(a) ≥105 nmol/L	P value
Statin deintensification, n/N (%)	125/1,397 (8.9%)	83/909 (9.1%)	8/84 (9.5%)	34/404 (8.4%)	0.90

Additional descriptive outcome	Total
Ezetimibe initiation among patients with statin deintensification, n/N (%)	18/125 (14.4%)

The statin-deintensification analysis was restricted to patients with a statin documented both before and after the index Lp(a) measurement. Statin deintensification was defined as a reduction in the dose of the same statin or a change to a lower statin-intensity category. An absent post-test statin record was not classified as treatment discontinuation.

Lp(a), lipoprotein(a).

Supplementary Table SV. Multivariable logistic regression models for recorded post-test lipid-lowering therapy changes

	Recorded LLT initiation		Recorded LLT intensification	
Covariate	**Continuous Lp(a)**	**Categorical Lp(a)**	**Continuous Lp(a)**	**Categorical Lp(a)**
Complete-case sample, N/events	9,737 / 471	9,737 / 471	12,301 / 733	12,301 / 733
Lp(a) terms				
Lp(a), per 1-unit increase in ln[1+Lp(a)]	1.93 (1.78–2.09)*	—	1.79 (1.68–1.90)*	—
Lp(a) 62 to <105 nmol/L vs. <62 nmol/L	—	2.99 (2.06–4.33)*	—	2.75 (2.04–3.71)*
Lp(a) ≥105 nmol/L vs. <62 nmol/L	—	6.18 (4.97–7.68)*	—	5.20 (4.39–6.17)*
Other covariates				
Age, per year	1.07 (1.06–1.08)*	1.07 (1.06–1.08)*	1.06 (1.05–1.06)*	1.06 (1.05–1.07)*
Female sex	0.63 (0.50–0.79)*	0.66 (0.52–0.83)*	0.67 (0.56–0.80)*	0.69 (0.58–0.83)*
BMI, per kg/m²	1.02 (1.00–1.04)	1.02 (1.00–1.05)	1.02 (1.00–1.04)	1.02 (1.00–1.04)
ASCVD	1.42 (0.81–2.49)	1.48 (0.84–2.58)	1.29 (0.95–1.75)	1.31 (0.97–1.78)
Current LDL-C, per mg/dL	1.02 (1.02–1.02)*	1.02 (1.02–1.02)*	1.01 (1.01–1.02)*	1.01 (1.01–1.02)*
HDL-C, per mg/dL	1.00 (0.99–1.01)	1.00 (0.99–1.01)	1.00 (0.99–1.00)	1.00 (0.99–1.00)
Triglycerides, per mg/dL	1.00 (1.00–1.01)*	1.00 (1.00–1.01)*	1.00 (1.00–1.00)*	1.00 (1.00–1.00)*
Baseline statin use	—	—	0.69 (0.56–0.85)*	0.70 (0.57–0.86)*
Baseline ezetimibe use	—	—	0.26 (0.18–	0.27 (0.18–

	0.39)*	0.39)*

Values are adjusted odds ratios with 95% confidence intervals. Continuous and categorical Lp(a) were evaluated in separate models. In the continuous models, Lp(a) was modeled per 1-unit increase in ln[1+Lp(a)]. The reference category in the categorical models was Lp(a) <62 nmol/L. All models included age, sex, BMI, ASCVD, current LDL-C, HDL-C, and triglycerides. Models of LLT intensification additionally included baseline statin and ezetimibe use. Analyses were restricted to patients with complete data for all variables included in the respective model. The em dash indicates that the variable was not applicable or was not included in the model. P <0.05.

ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CI, confidence interval; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; LLT, lipid-lowering therapy; Lp(a), lipoprotein(a); OR, odds ratio.

Supplementary Table SVI. Interaction and stratified analyses of the association between lipoprotein(a) and recorded post-test lipid-lowering therapy changes

Panel A. Recorded LLT initiation

Effect modifier	Reference stratum	Lp(a) OR (95% CI)	N/events	Comparison stratum	Lp(a) OR (95% CI)	N/events	Interaction OR (95% CI); P value
Current LDL-C category	<100 mg/dL	1.97 (1.50–2.59)	3,886/39	≥100 mg/dL	1.89 (1.74–2.05)	5,851/432	0.98 (0.75–1.28); P=0.87
Sex	Male	1.85 (1.65–2.08)	3,153/232	Female	2.00 (1.79–2.25)	6,584/239	1.06 (0.90–1.24); P=0.47
Age group	<65 years	1.99 (1.83–2.16)	9,565/439	≥65 years	1.15 (0.82–1.62)	172/32	0.57 (0.40–0.81); P=0.002
ASCVD status	Absent	1.96 (1.80–2.12)	9,596/449	Present	1.41 (0.96–2.08)	141/22	0.73 (0.47–1.11); P=0.14

Panel B. Recorded LLT intensification

Effect modifier	Reference stratum	Lp(a) OR (95% CI)	N/events	Comparison stratum	Lp(a) OR (95% CI)	N/events	Interaction OR (95% CI); P value

Current LDL-C category	<100 mg/dL	1.60 (1.39–1.85)	4,844/129	≥100 mg/dL	1.81 (1.69–1.94)	7,457/604	1.08 (0.93–1.26); P=0.32
Sex	Male	1.64 (1.50–1.79)	4,491/361	Female	1.96 (1.79–2.14)	7,810/372	1.18 (1.04–1.33); P=0.008
Age group	<65 years	1.85 (1.73–1.98)	11,422/623	≥65 years	1.52 (1.29–1.78)	879/110	0.81 (0.68–0.96); P=0.015
ASCVD status	Absent	1.87 (1.75–1.99)	11,656/655	Present	1.28 (1.06–1.54)	645/78	0.71 (0.58–0.86); P<0.001

Values are adjusted odds ratios with 95% confidence intervals for the association between Lp(a) and the respective outcome per 1-unit increase in ln[1+Lp(a)]. Stratum-specific ORs were estimated in separate adjusted models. Interaction ORs represent the multiplicative change in the association between Lp(a) and the outcome in the comparison stratum relative to the reference stratum. The LLT-initiation analysis was restricted to patients without recorded baseline statin or ezetimibe use and was adjusted for age, sex, BMI, ASCVD, current LDL-C, HDL-C, and triglycerides. The LLT-intensification analysis included the same covariates with additional adjustment for baseline statin and ezetimibe use. Interaction analyses were exploratory, and no adjustment for multiple comparisons was applied.

ASCVD, atherosclerotic cardiovascular disease; BMI, body mass index; CI, confidence interval; HDL-C, high-density lipoprotein cholesterol; LDL-C, low-density lipoprotein cholesterol; LLT, lipid-lowering therapy; Lp(a), lipoprotein(a); OR, odds ratio.