SUPPLEMENTAL MATERIAL

Table S1. Identification of covariates and outcomes.

Conditions	ICD-10 code, procedure, and operation codes
Hypertension	I10, I15
Heart failure	I50
Valvular heart disease	I05, I06, I34, I35 Procedure and operation codes; KFK, KFM
Diabetes Mellitus	E10, E11, E12, E13, E14
Ischemic heart disease	I20, I21, I23, I24, I25, ICD-8: 410
Hyperthyroidism	E05
Obesity	E66
Sleep apnea	G473
Vascular disease	I700, I702-I709, I21, I22
Atrial fibrillation	I48
Ischemic stroke	G458, G459, I63, I64, I74
Conduction disorder	I442, I443, I495

Conduction disorder was a combined endpoint of 3rd degree atrio-ventricular block (I442 and I443) and sick sinus node syndrome (I495). ICD-10=International Classification of Disease, 10th revision.

Table S2. Identification of covariates and outcomes from drugs.

Indication	Drugs (ATC code)
Hypertension	Alpha blockers: C02A, C02B, C02C, Non-loop diuretics: C02L, C02DA, C03A, C03B, C03D, C03E, C03X, C07C, C07D, C08G, C09BA, C09DA, C09XA52, Vasodilaters: C02DB, C02DD, C02DG, C04, C05, Beta-blockers: C07, Calcium blockers: C07F, C08, C09BB, C09DB, ACE-inhibitors: C09
Diabetes	Oral antidiabetics: A10B, Insulin: A10A
Anti-platelets	B01AC
Hyperthyroidism	H03B

Hypertension was defined from discharge diagnosis or as being present if a subject prior to inclusion was treated simultaneously with at least two kinds of antihypertensive drugs. Diabetes and hyperthyroidism were defined from discharge diagnosis or in case of a purchase of prescription medication used for one of the two diseases. ATC=Anatomic Therapeutic Chemical.

Table S3. Lead specific distribution of one and two biphasic P-waves in inferior leads.

IAB_lead	Frequency	Percent
No IAB	113,204	74.1
Partial IAB	24,403	16
One biphasic in II	85	0.06
One biphasic in III	11,363	7.4
One biphasic in aVF	440	.29
Two biphasic in II & III	6	0
Two biphasic in II & aVF	109	0.07
Two biphasic in III & aVF	2,327	1.52
Three biphasic	822	0.54
Total	152,759	100

IAB=inter-atrial block.

Table S4. The hazard of ischemic stroke when censoring for atrial fibrillation during follow-up.

	Hazard ratio (95% CI)	P-value
No IAB	REF	REF
Partial IAB	1.00 (0.96 – 1.05)	0.885
IAB, one biphasic P-wave	1.07 (1.00 – 1.13)	0.052
IAB, two biphasic P-waves	1.17 (1.04 – 1.32)	0.011
Advanced IAB, three biphasic P-waves	1.32 (1.09 – 1.60)	0.005

IAB=inter-atrial block; CI=confidence interval.

Table S5. Examples of Absolute Risk Predictions on an Individual Level.

Patient examples	IAB subgroups	Absolute risk of AF (%) during follow-up from index ECG		
		1 year	5 years	10 years
Woman, 65 years of age, no comorbidities, normal heart rate, no ECG sign of left ventricular hypertrophy	No IAB	0.5	2.5	6.1
	Partial IAB	0.7	3.3	8.0
	IAB, one biphasic P wave	0.9	4.3	10.4
	IAB, two biphasic P waves	1.5	7.0	16.6
	Advanced IAB, three biphasic P waves	2.9	13.2	29.5
Man, 65 years of age, no comorbidities, normal heart rate, no ECG sign of left ventricular hypertrophy	No IAB	0.7	3.3	7.8
	Partial IAB	0.9	4.4	10.4
	IAB, one biphasic P wave	1.2	5.7	13.5
	IAB, two biphasic P waves	2.0	9.2	21.0
	Advanced IAB, three biphasic P waves	3.9	17.2	35.9
Woman, 65 years of age, ischemic heart disease, hypertension, normal heart rate, no ECG sign of left ventricular hypertrophy	No IAB	0.7	3.7	8.9
	Partial IAB	0.9	4.8	11.3
	IAB, one biphasic P wave	1.0	5.2	12.2
	IAB, two biphasic P waves	1.4	7.0	15.9
	Advanced IAB, three biphasic P waves	5.0	23.5	46.3
Man, 65 years of age, ischemic heart disease, hypertension, normal heart rate, no ECG sign of left ventricular hypertrophy	No IAB	0.9	4.7	10.8
	Partial IAB	1.2	6.1	13.7
	IAB, one biphasic P wave	1.3	6.5	14.8
	IAB, two biphasic P waves	1.8	8.7	18.9
	Advanced IAB, three biphasic P waves	6.5	28.5	51.4

Predictions were based on Cox models fitted within the respective age and CVD/no CVD subgroups and adjusted for covariates as described in the manuscript. AF=atrial fibrillation; ECG=electrocardiogram; IAB=inter-atrial block

Figure S1. Multivariable-adjusted hazard ratios for atrial fibrillation, ischemic stroke, conduction disorder, and all-cause mortality by which inferior leads affected by biphasic P-wave. IAB=inter-atrial block; CI$_{95}$=95% confidence interval.

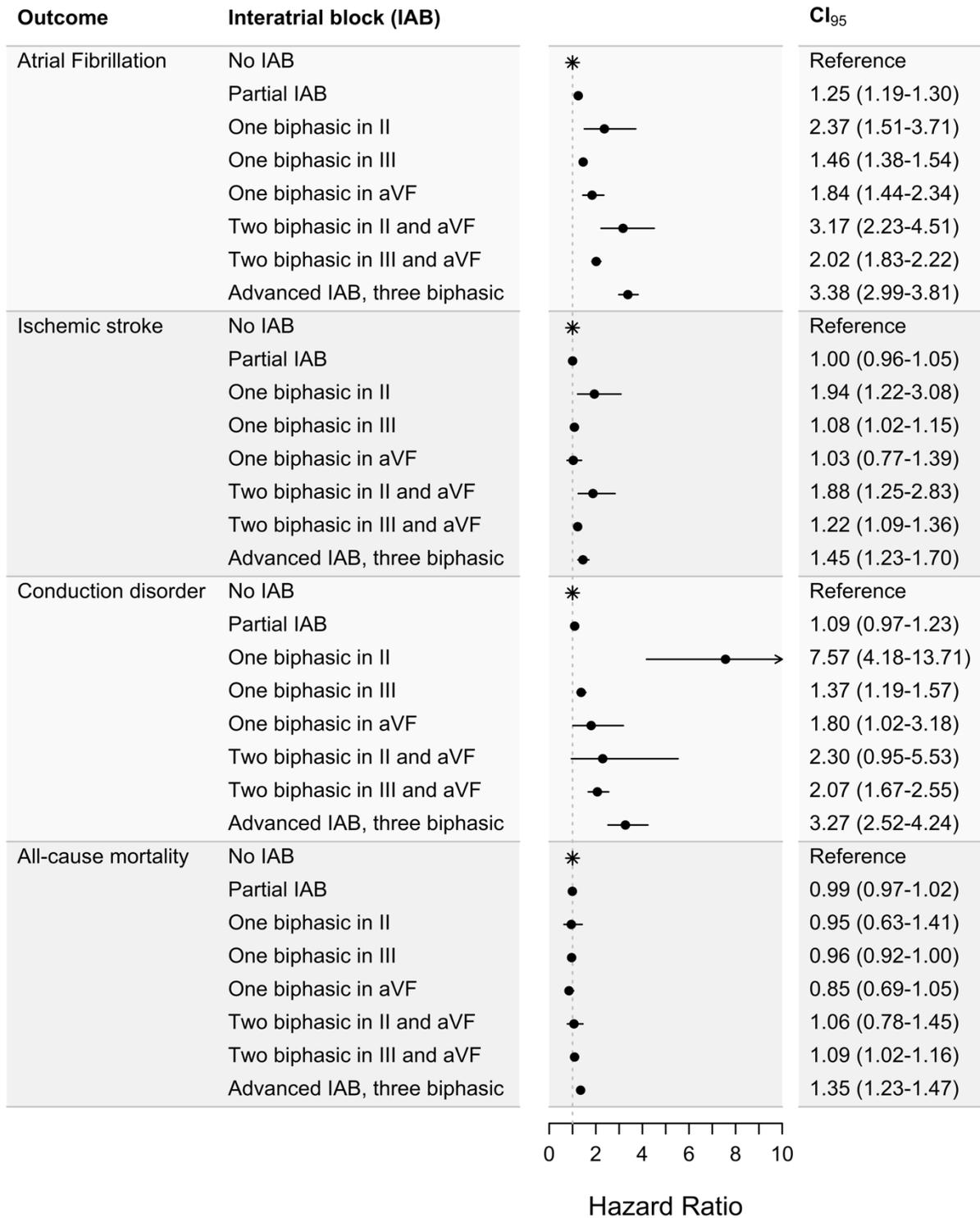| Outcome	Interatrial block (IAB)		CI$_{95}$
Atrial Fibrillation	No IAB		Reference
	Partial IAB		1.25 (1.19-1.30)
	One biphasic in II		2.37 (1.51-3.71)
	One biphasic in III		1.46 (1.38-1.54)
	One biphasic in aVF		1.84 (1.44-2.34)
	Two biphasic in II and aVF		3.17 (2.23-4.51)
	Two biphasic in III and aVF		2.02 (1.83-2.22)
	Advanced IAB, three biphasic		3.38 (2.99-3.81)
Ischemic stroke	No IAB		Reference
	Partial IAB		1.00 (0.96-1.05)
	One biphasic in II		1.94 (1.22-3.08)
	One biphasic in III		1.08 (1.02-1.15)
	One biphasic in aVF		1.03 (0.77-1.39)
	Two biphasic in II and aVF		1.88 (1.25-2.83)
	Two biphasic in III and aVF		1.22 (1.09-1.36)
	Advanced IAB, three biphasic		1.45 (1.23-1.70)
Conduction disorder	No IAB		Reference
	Partial IAB		1.09 (0.97-1.23)
	One biphasic in II		7.57 (4.18-13.71)
	One biphasic in III		1.37 (1.19-1.57)
	One biphasic in aVF		1.80 (1.02-3.18)
	Two biphasic in II and aVF		2.30 (0.95-5.53)
	Two biphasic in III and aVF		2.07 (1.67-2.55)
	Advanced IAB, three biphasic		3.27 (2.52-4.24)
All-cause mortality	No IAB		Reference
	Partial IAB		0.99 (0.97-1.02)
	One biphasic in II		0.95 (0.63-1.41)
	One biphasic in III		0.96 (0.92-1.00)
	One biphasic in aVF		0.85 (0.69-1.05)
	Two biphasic in II and aVF		1.06 (0.78-1.45)
	Two biphasic in III and aVF		1.09 (1.02-1.16)
	Advanced IAB, three biphasic		1.35 (1.23-1.47)

Hazard Ratio

0   2   4   6   8   10

Figure S2. Cumulative incidence curves for conduction disorder in patients with and without cardiovascular disease at baseline and stratified into 10-year age-groups. Predictions were based on multivariable-adjusted Cox models fitted within the respective age-group and cardiovascular disease group (yes/no). CVD=cardiovascular disease; ECG=electrocardiogram; IAB=inter-atrial block.