

Adverse events and clinical correlates in Asian patients with atrial fibrillation and type 2 diabetes mellitus: A report from Asia Pacific Heart Rhythm Society Atrial Fibrillation Registry.

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Supplementary materials

Supplementary Table 1. Cox regression multivariable analysis for the risk of all-cause of death in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.09	1.07-1.11	<0.001
Female sex	0.99	0.67-1.44	0.908
Hypertension	1.52	0.92-2.51	0.101
Diabetes	1.48	1.00-2.19	0.050
Heart Failure	2.75	1.88-4.01	<0.001
Coronary artery disease	1.67	1.12-2.48	0.011
Peripheral artery disease	2.50	1.01-6.20	0.048
Previous stroke	1.43	0.86-2.37	0.167

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 2. Cox regression multivariable analysis for the risk of cardiovascular death in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.08	(1.03-1.12)	0.001
Female sex	0.97	(0.42-2.23)	0.937
Hypertension	1.14	(0.41-3.17)	0.805
Heart Failure	3.77	(1.65-8.61)	0.002
Diabetes	2.33	(1.01-5.40)	0.047
Coronary artery disease	2.52	(1.10-5.75)	0.029
Peripheral artery disease	1.87	(0.25-14.14)	0.543
Previous stroke	1.04	(0.31-3.48)	0.954

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 3. Cox regression multivariable analysis for the risk of acute coronary syndrome or percutaneous coronary interventions in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.03	(1.00-1.06)	0.091
Female sex	0.81	(0.40-1.62)	0.543
Hypertension	2.39	(1.03-5.57)	0.043
Heart Failure	1.02	(0.49-2.12)	0.951
Diabetes	0.95	(0.47-1.92)	0.895
Coronary artery disease	2.76	(1.43-5.29)	0.002
Peripheral artery disease	1.47	(0.20-10.9)	0.704
Previous stroke	0.41	(0.10-1.71)	0.221

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 4. Cox regression multivariable analysis for the risk of thromboembolic events in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.04	(1.00-1.08)	0.031
Female sex	1.49	(0.68-3.27)	0.322
Hypertension	0.86	(0.37-1.98)	0.715
Heart Failure	2.48	(1.11-5.56)	0.028
Diabetes	1.42	(0.60-3.37)	0.426
Coronary artery disease	0.30	(0.07-1.25)	0.096
Peripheral artery disease	-	-	-
Previous stroke	0.75	(0.18-3.21)	0.701

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 5. Cox regression multivariable analysis for the risk of new or worsening heart failure in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.02	(1.00-1.04)	0.053
Female sex	1.40	(0.90-2.18)	0.136
Hypertension	1.46	(0.86-2.46)	0.161
Heart Failure	2.98	(1.94-4.60)	<0.001
Diabetes	0.90	(0.56-1.45)	0.657
Coronary artery disease	2.59	(1.66-4.05)	<0.001
Peripheral artery disease	3.19	(1.16-8.80)	0.025
Previous stroke	1.37	(0.76-2.49)	0.297

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 6. Cox regression multivariable analysis for the risk of major bleeding in patients with atrial fibrillation and diabetes.

	HR	95%CI	p-value
Age	1.06	(1.03-1.10)	<0.001
Female sex	1.07	(0.58-2.00)	0.828
Hypertension	1.16	(0.57-2.39)	0.679
Heart Failure	1.17	(0.58-2.35)	0.661
Diabetes	1.91	(1.01-3.60)	0.046
Coronary artery disease	0.61	(0.27-1.39)	0.238
Peripheral artery disease	3.33	(0.79-13.94)	0.100
Previous stroke	1.31	(0.55-3.14)	0.537

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 7. Cox regression multivariable sensitivity analysis for the risk of all-cause death in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.09	(1.06-1.11)	<0.001
Female sex	0.92	(0.62-1.36)	0.663
Hypertension	1.48	(0.89-2.46)	0.130
Heart Failure	2.53	(1.71-3.73)	<0.001
Diabetes	1.33	(0.88-2.00)	0.171
Coronary artery disease	1.48	(0.99-2.23)	0.057
Peripheral artery disease	1.78	(0.70-4.55)	0.225
Previous stroke	1.60	(0.96-2.67)	0.071
Liver disease	0.84	(0.34-2.09)	0.710
Chronic kidney disease	1.77	(1.09-2.87)	0.020
Oral anticoagulant	0.46	(0.31-0.73)	0.001

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 8. Cox regression multivariable sensitivity analysis for the risk of cardiovascular death in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.07	(1.03-1.12)	0.001
Female sex	1.00	(0.43-1.12)	1.000
Hypertension	1.13	(0.41-3.16)	0.811
Heart Failure	3.72	(1.62-8.57)	0.002
Diabetes	2.38	(1.02-5.52)	0.044
Coronary artery disease	2.50	(1.09-5.73)	0.031
Peripheral artery disease	1.62	(0.20-13.70)	0.650
Previous stroke	1.02	(0.30-3.44)	0.977
Liver disease	-	-	-
Chronic kidney disease	1.31	(0.44-3.89)	0.626
Oral anticoagulant	1.22	(0.39-3.76)	0.732

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 9. Cox regression multivariable sensitivity analysis for the risk of acute coronary syndrome or percutaneous coronary interventions in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.03	(1.00-1.06)	0.107
Female sex	0.83	(0.41-1.68)	0.611
Hypertension	2.39	(1.02-5.62)	0.046
Heart Failure	0.91	(0.42-1.95)	0.798
Diabetes	0.99	(0.48-2.01)	0.955
Coronary artery disease	2.58	(1.33-5.03)	0.005
Peripheral artery disease	1.41	(0.19-10.66)	0.742
Previous stroke	0.46	(0.11-1.92)	0.286
Liver disease	1.22	(0.29-5.15)	0.784
Chronic kidney disease	1.26	(0.46-3.41)	0.656
Oral anticoagulant	0.49	(0.24-0.99)	0.047

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 10. Cox regression multivariable sensitivity analysis for the risk of Thromboembolic event in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.04	(1.01-1.08)	0.027
Female sex	1.51	(0.68-3.31)	0.309
Hypertension	0.85	(0.37-1.98)	0.706
Heart Failure	2.52	(1.11-5.72)	0.026
Diabetes	1.43	(0.59-3.44)	0.429
Coronary artery disease	0.28	(0.06-1.19)	0.084
Peripheral artery disease	-	-	-
Previous stroke	0.84	(0.20-3.63)	0.753
Liver disease	0.72	(0.10-5.45)	0.753
Chronic kidney disease	1.13	(0.32-3.97)	0.851
Oral anticoagulant	0.46	(0.19-1.12)	0.088

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 11. Cox regression multivariable sensitivity analysis for the risk of new or worsening heart failure in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.02	(1.00-1.04)	0.093
Female sex	1.35	(0.86-2.11)	0.192
Hypertension	1.41	(0.83-2.39)	0.208
Heart Failure	2.91	(1.87-4.54)	<0.001
Diabetes	0.87	(0.53-1.41)	0.560
Coronary artery disease	2.43	(1.54-3.82)	<0.001
Peripheral artery disease	2.56	(0.90-7.28)	0.077
Previous stroke	1.29	(0.69-2.39)	0.426
Liver disease	0.68	(0.21-2.17)	0.513
Chronic kidney disease	1.82	(1.02-3.26)	0.044
Oral anticoagulant	0.84	(0.49-1.47)	0.548

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 12. Cox regression multivariable sensitivity analysis for the risk of major bleeding in patients with atrial fibrillation and diabetes (Model 1).

	HR	95%CI	p-value
Age	1.07	(1.03-1.10)	<0.001
Female sex	1.08	(0.58-2.01)	0.814
Hypertension	1.17	(0.57-2.40)	0.665
Heart Failure	1.21	(0.60-2.43)	0.592
Diabetes	1.90	(1.01-3.58)	0.047
Coronary artery disease	0.66	(0.29-1.51)	0.327
Peripheral artery disease	3.86	(0.91-16.33)	0.066
Previous stroke	1.19	(0.50-2.85)	0.693
Liver disease	2.11	(0.74-5.98)	0.162
Chronic kidney disease	0.57	(0.17-1.92)	0.363
Oral anticoagulant	2.31	(0.71-7.54)	0.165

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 13. Cox regression multivariable sensitivity analysis for the risk of all-cause death in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.09	(1.06-1.12)	<0.001
Female sex	0.91	(0.57-1.45)	0.681
Hypertension	1.36	(0.75-2.49)	0.316
Heart Failure	2.19	(1.37-3.48)	0.001
Diabetes	1.40	(0.87-2.26)	0.164
Coronary artery disease	1.40	(0.86-2.30)	0.178
Peripheral artery disease	2.17	(0.66-7.12)	0.200
Previous stroke	1.33	(0.74-2.40)	0.338
Liver disease	0.69	(0.21-2.21)	0.527
Chronic kidney disease	1.49	(0.81-2.74)	0.205
Vitamin-K antagonist	3.83	(2.39-6.13)	<0.001

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 14. Cox regression multivariable sensitivity analysis for the risk of cardiovascular death in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.08	(1.03-1.13)	0.002
Female sex	1.06	(0.43-2.63)	0.905
Hypertension	0.83	(0.29-2.40)	0.728
Heart Failure	3.11	(1.27-7.66)	0.013
Diabetes	2.61	(1.05-6.51)	0.039
Coronary artery disease	2.12	(0.85-5.27)	0.108
Peripheral artery disease	2.42	(0.30-19.47)	0.406
Previous stroke	1.08	(0.31-3.73)	0.905
Liver disease	-	-	-
Chronic kidney disease	1.54	(0.48-4.93)	0.466
Vitamin-K antagonist	2.43	(0.99-5.98)	0.053

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 15. Cox regression multivariable sensitivity analysis for the risk of acute coronary syndrome or percutaneous coronary interventions in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.02	(0.99-1.06)	0.236
Female sex	0.52	(0.21-1.30)	0.162
Hypertension	3.04	(1.02-9.02)	0.045
Heart Failure	0.65	(0.24-1.74)	0.389
Diabetes	0.73	(0.30-1.77)	0.483
Coronary artery disease	2.09	(0.93-4.66)	0.074
Peripheral artery disease	2.57	(0.34-19.6)	0.363
Previous stroke	0.54	(0.13-2.30)	0.405
Liver disease	1.68	(0.40-7.17)	0.481
Chronic kidney disease	0.74	(0.17-3.26)	0.692
Vitamin-K antagonist	1.79	(0.81-3.99)	0.153

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 16. Cox regression multivariable sensitivity analysis for the risk of thromboembolic events in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.04	(1.00-1.09)	0.076
Female sex	2.00	(0.79-5.06)	0.143
Hypertension	0.87	(0.33-2.32)	0.779
Heart Failure	2.15	(0.82-5.63)	0.120
Diabetes	1.36	(0.50-3.73)	0.545
Coronary artery disease	0.44	0.10-1.95)	0.278
Peripheral artery disease	-	-	-
Previous stroke	0.93	(0.21-4.07)	0.918
Liver disease	0.97	(0.13-7.52)	0.978
Chronic kidney disease	1.29	(0.28-5.83)	0.743
Vitamin-K antagonist	1.17	(0.41-3.36)	0.768

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 17. Cox regression multivariable sensitivity analysis for the risk of new or worsening heart failure in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.02	(1.00-1.04)	0.121
Female sex	1.05	(0.64-1.75)	0.838
Hypertension	1.24	(0.70-2.17)	0.463
Heart Failure	2.36	(1.44-3.86)	0.001
Diabetes	0.82	(0.47-1.42)	0.469
Coronary artery disease	2.25	(1.36-3.74)	0.002
Peripheral artery disease	0.82	(0.11-5.85)	0.818
Previous stroke	1.37	(0.71-2.63)	0.343
Liver disease	0.51	(0.12-2.09)	0.349
Chronic kidney disease	1.57	(0.78-3.16)	0.203
Vitamin-K antagonist	1.80	(1.10-2.95)	0.020

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 18. Cox regression multivariable sensitivity analysis for the risk of major bleeding in patients with atrial fibrillation and diabetes (Model 2).

	HR	95%CI	p-value
Age	1.07	(1.03-1.10)	<0.001
Female sex	1.10	(0.58-2.09)	0.777
Hypertension	1.30	(0.60-2.82)	0.502
Heart Failure	0.96	(0.45-2.05)	0.917
Diabetes	2.08	(1.09-3.99)	0.027
Coronary artery disease	0.73	(0.32-1.68)	0.456
Peripheral artery disease	4.18	(0.98-17.3)	0.053
Previous stroke	1.15	(0.48-2.78)	0.755
Liver disease	2.20	(0.77-6.26)	0.141
Chronic kidney disease	0.40	(0.09-1.71)	0.215
Vitamin-K antagonist	1.86	(0.97-3.59)	0.064

HR: Hazard Ratio, CI: Confidence Interval.

Supplementary Table 19. Interaction analysis for the risk of all-cause death, cardiovascular death, and major bleeding in patients with atrial fibrillation and diabetes mellitus.

		All-cause death	
		HR 95%CI	p for interaction
Age \geq 75	DM	1.15 (0.73-1.80)	0.010
	No DM	Reference	
Age<75	DM	3.81 (1.62-8.95)	
	No DM	Reference	
Males	DM	2.01 (1.20-3.35)	0.068
	No DM	Reference	
Females	DM	0.85 (0.45-1.63)	
	No DM	Reference	
Hypertension	DM	1.53 (1.00-2.34)	0.430
	No DM	Reference	
No hypertension	DM	0.96 (0.28-3.45)	
	No DM	Reference	
HF	DM	1.50 (0.85-2.65)	0.885
	No DM	Reference	
No HF	DM	1.37 (0.79-2.38)	
	No DM	Reference	
CAD	DM	2.06 (1.08-3.94)	0.117
	No DM	Reference	
No CAD	DM	1.16 (0.68-1.97)	
	No DM	Reference	
PAD	DM	0.96 (0.10-9.76)	0.682
	No DM	Reference	
No PAD	DM	1.46 (0.98-2.19)	
	No DM	Reference	
Previous stroke	DM	1.17 (0.45-3.10)	0.924
	No DM	Reference	
No previous stroke	DM	1.47 (0.95-2.28)	
	No DM	Reference	
Rhythm control	DM	1.08 (0.34-3.44)	0.726
	No DM	Reference	
Rate control	DM	1.56 (1.03-2.37)	
	No DM	Reference	

Multivariable analysis adjusted for: age, sex, hypertension, heart failure, coronary artery disease, peripheral artery disease, and previous stroke.

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