ONLINE SUPPLEMENT FOR

CARDIOVASCULAR OUTCOMES IN INDIVIDUALS WITH DIABETES FROM THE FRAMINGHAM STUDY: THE IMPORTANCE OF BLOOD PRESSURE

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Table S-1: The adjusted hazard ratio (HR) for hypertension as a risk factor for death or cardiovascular events and population attributable risk (PAR) in individuals over age 35 with diabetes: sensitivity analyses using measured BP ≥140 or ≥90 mmHg or current use of antihypertensive therapy to define hypertension)

Outcomes	HR (95%CI, Hypertension vs. Normotension)	Prevalence of Hypertension	Population Attributable Risk (%)
All cause death		49.0	
Model 1*	1.44(1.38-1.50)		16.4
Model 2†	1.62(1.52-1.71)		21.6
Model 3‡	1.89(1.70-2.11)		28.6
CVD death		49.1	
Model 1*	2.27(2.10-2.45)		36.3
Model 2†	2.54(2.29-2.82)		40.9
Model 3‡	2.91(2.37-3.56)		46.1
MI		49.0	
Model 1*	2.21(2.10-2.34)		35.3
Model 2†	2.23(2.09-2.38)		35.6
Model 3‡	2.30(2.12-2.50)		36.9
Stroke		49.0	
Model 1*	2.38(2.19-2.58)		38.2
Model 2†	2.47(2.22-2.74)		39.7
Model 3‡	2.39(2.03-2.80)		38.3
HF		49.0	
Model 1*	2.54(2.29-2.83)		40.9
Model 2†	2.50(2.16-2.88)		40.2
Model 3‡	2.70(2.04-3.57)		43.3
Any one of MI, Stroke, or HF event		49.0	
Model 1*	2.04(1.96-2.13)		31.9
Model 2†	2.11(2.00-2.22)		33.2
Model 3‡	2.02(1.90-2.15)		31.4

Model 1*: adjusted for sex and age

Model 2†: adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, and hypercholesterolemia at baseline (>5.2mmol/L total cholesterol)

Model 3‡: adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, hypercholesterolemia at baseline (≥5.2mmol/L total cholesterol), low HDL (<1.03mmol/L for male, <1.28mmol/L for female) at baseline

Table S-2A: The adjusted hazard ratio (HR) for blood pressure (continuous variable) as a risk factor for death or cardiovascular events among 1145 individuals with diabetes over age 35.

Outcomes	Systolic blood pressure HR per 10mmHg (95%CI)	P value	Diastolic blood pressure HR per 10mmHg (95%CI)	P value
All cause death	1.094(0.983-1.217)	0.099	1.168(0.995-1.429)	0.061
CVD death	1.168(1.062-1.284)	0.001	1.192(1.064-1.396)	0.004
MI	1.170(1.069-1.281)	0.0006	1.176(1.041-1.328)	0.009
Stroke	1.202(1.096-1.319)	0.0001	1.192(0.999-1.421)	0.051
HF	1.198(1.094-1.312)	0.0001	1.055(0.983-1.261)	0.052
Any one of MI, Stroke, or HF event	1.155(1.102-1.212)	<.0001	1.133(1.011-1.269)	0.032

The model includes the variables of systolic blood pressures and diastolic blood pressure separately, and is adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, hypercholesterolemia at baseline (≥5.2mmol/L total cholesterol), and low HDL at baseline (<1.03mmol/L for male, <1.28mmol/L for female)

Table S-2B: The adjusted hazard ratio (HR) for mean arterial blood pressure and pulse blood pressure (continuous variable) as a risk factor for death or cardiovascular events among 1145 individuals with diabetes over age 35.

Outcomes	Mean arterial blood pressure HR per 10mmHg (95%CI)	P value	Pulse blood pressure HR per 10mmHg (95%CI)	P value
All cause death	1.108(0.993-1.307)	0.055	1.131(0.997-1.238)	0.056
CVD death	1.705(1.318-2.205)	<.0001	1.698(1.356-2.127)	<.0001
MI	1.242(1.081-1.428)	0.002	1.155(1.034-1.289)	<.0001
Stroke	1.216(1.054-1.403)	0.008	1.246(1.045-1.486)	0.011
HF	1.757(1.272-2.426)	0.0006	1.412(1.242-1.605)	0.014
Any one of MI, Stroke, or HF event	1.195(1.089-1.311)	0.0002	1.217(1.134-1.307)	<.0001

The model includes the variable of systolic blood pressures and diastolic blood pressure separately, and is adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, hypercholesterolemia at baseline (≥5.2mmol/L total cholesterol), and low HDL at baseline (<1.03mmol/L for male, <1.28mmol/L for female)

Table S-3: The adjusted hazard ratio (HR) for hypertension and diabetes as independent risk factors for death or cardiovascular events in all individuals over age 35.

Outcomes	HR (95%CI, Hypertension vs. Normotension)	P value
All cause death		
Hypertension	1.67(1.35-2.07)	<.0001
Diabetes	1.82(1.41-2.35)	<.0001
CVD death		
Hypertension	3.01(1.90-4.76)	<.0001
Diabetes	2.59(1.64-4.11)	<.0001
MI		
Hypertension	2.00(1.66-2.41)	<.0001
Diabetes	2.62(2.11-3.25)	<.0001
Stroke		
Hypertension	2.80(1.90-4.02)	<.0001
Diabetes	2.61(1.80-3.80)	<.0001
HF		
Hypertension	2.24(1.66-3.03)	<.0001
Diabetes	3.10(2.34-4.11)	<.0001
Any one of MI, Stroke, or HF event		
Hypertension	2.00(1.74-2.30)	<.0001
Diabetes	2.40(2.06-2.79)	<.0001

The model included the variables of hypertension(Yes, No) and Diabetes (yes, No), and adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, hypercholesterolemia at baseline (≥5.2mmol/L total cholesterol), and low HDL at baseline (<1.03mmol/L for male, <1.28mmol/L for female). All 6741 study subjects were included in these analyses.

Table S-4 The adjusted hazard ratio (HR) for hypertension as a risk factor for death or cardiovascular events and population attributable risk (PAR) in individuals over age 35 with diabetes: sensitivity analyses after excluding 110 normotensive individuals at baseline who developed hypertension during follow-up

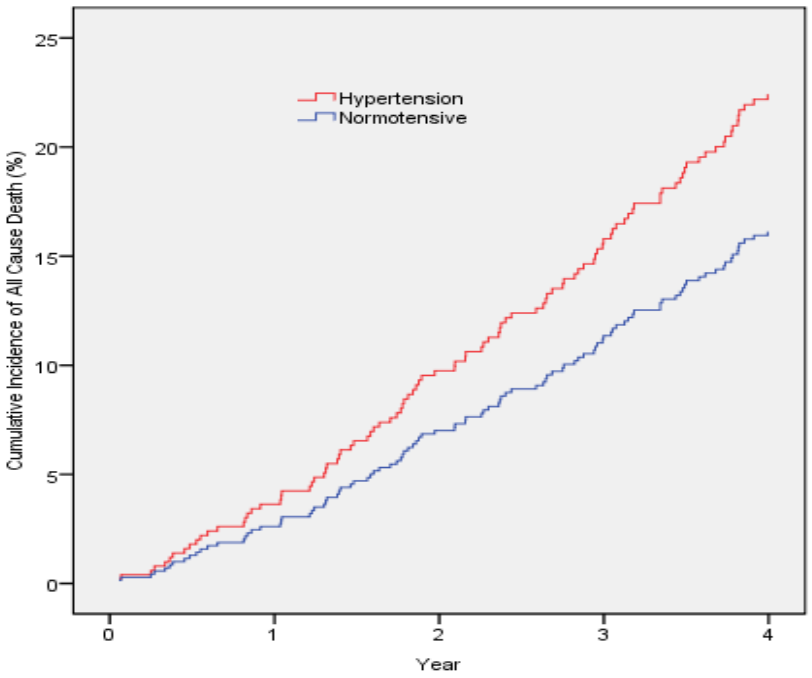
	Diabetes patients(N=1035)		
Outcomes	HR (95%CI, Hypertension vs. Normotension)	Prevalence of Hypertension	Population Attributable Risk (%)
All cause death		60.7	
Model 1*	1.47(1.13-1.79)		22.5
Model 2†	1.43(1.02-1.97)		20.9
Model 3‡	2.27(1.03-5.01)		44.4
CVD death		58.6	
Model 1*	2.06(1.42-3.00)		38.9
Model 2†	2.11(1.26-3.55)		40.1
Model 3‡	3.64(1.86-7.12)		62.3
MI		58.1	
Model 1*	1.66(1.04-2.97)		27.2
Model 2†	3.25(1.18-8.94)		56.6
Model 3‡	2.52(1.09-7.00)		46.7
Stroke		56.4	
Model 1*	1.73(1.12-2.66)		29.4
Model 2†	2.03(1.20-3.43)		37.1
Model 3‡	2.05(1.14-3.71)		37.6
HF		56.5	
Model 1*	2.40(1.37-3.04)		47.0
Model 2†	2.59(1.55-4.30)		50.2
Model 3‡	3.22(1.15-6.27)		58.9
Any one of MI, Stroke, or HF event		60.7	
Model 1*	1.71(1.22-2.40)		29.6
Model 2†	2.17(1.39-3.40)		41.3
Model 3‡	2.15(1.34-3.44)		40.8

Model 1*: adjusted for sex, and age group (ten years period from 35 to more than 75 years old),

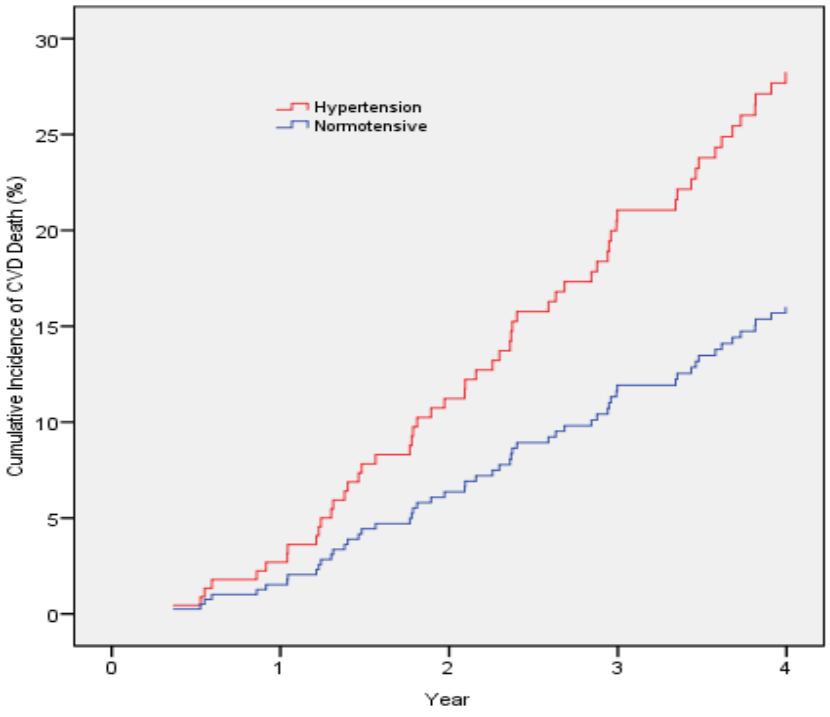
Model 2†: adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, and hypercholesterolemia at baseline (>5.2mmol/L total cholesterol)
Model 3‡: adjusted for sex, age, current smoker at baseline (yes, no), obesity (BMI≥30) at baseline, hypercholesterolemia at baseline (≥5.2mmol/L total cholesterol), low HDL at baseline (<1.03mmol/L for male, <1.28mmol/L for female)

Figure S-1 Age- and sex-adjusted Cumulative incidence of study outcomes among subjects with diabetes 35 years or older

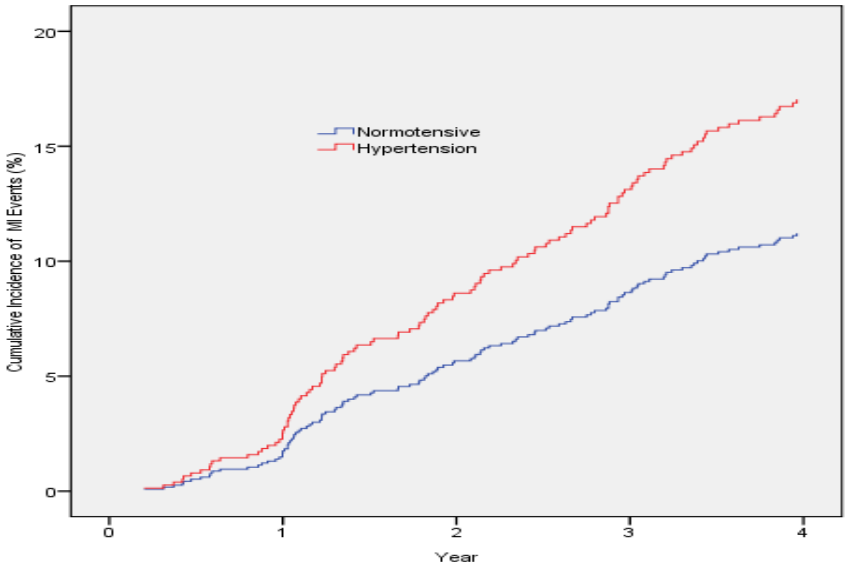
All cause death



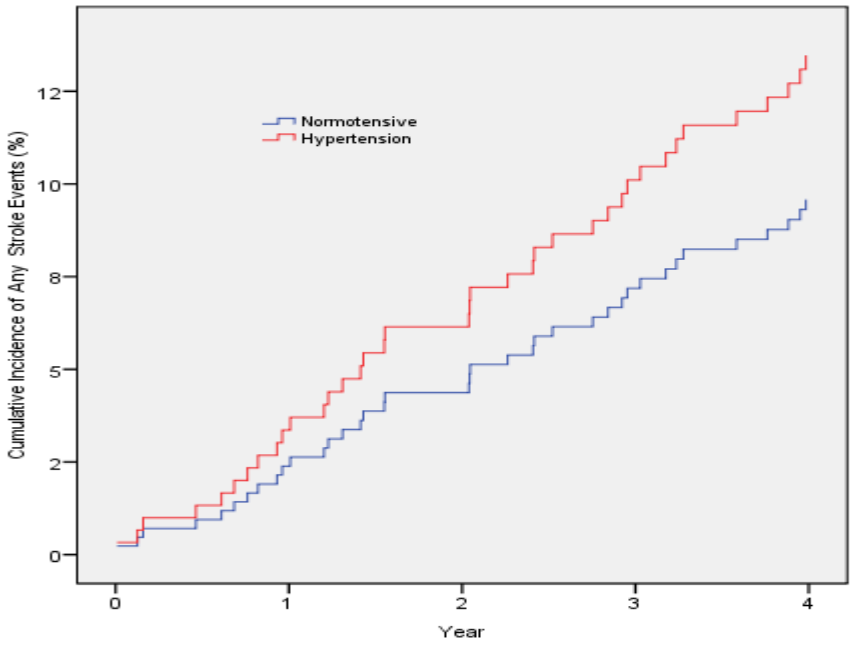
CVD related death



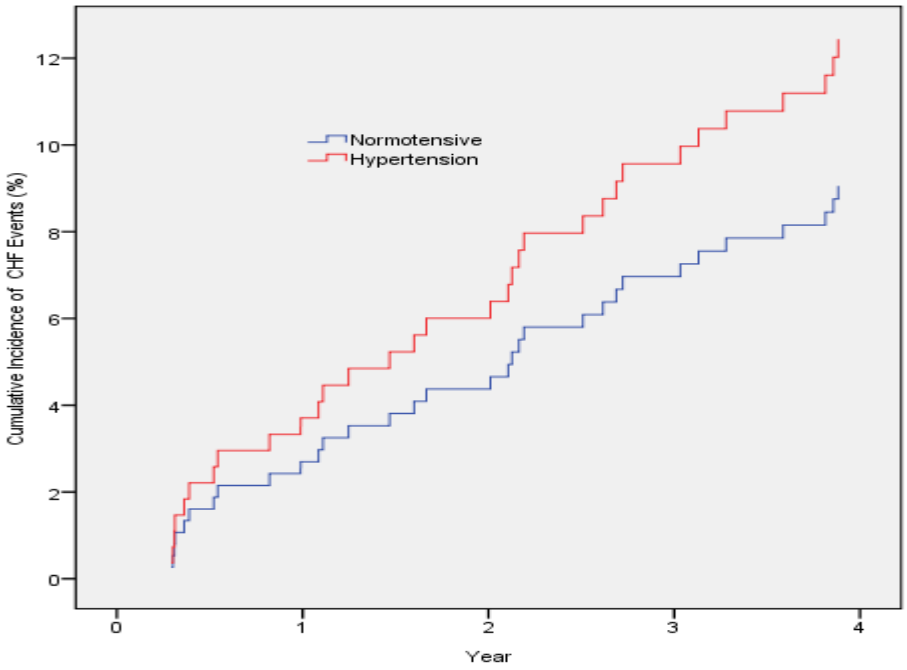
MI events



Stroke events



HF events



Any MI, Stroke, CHF events