

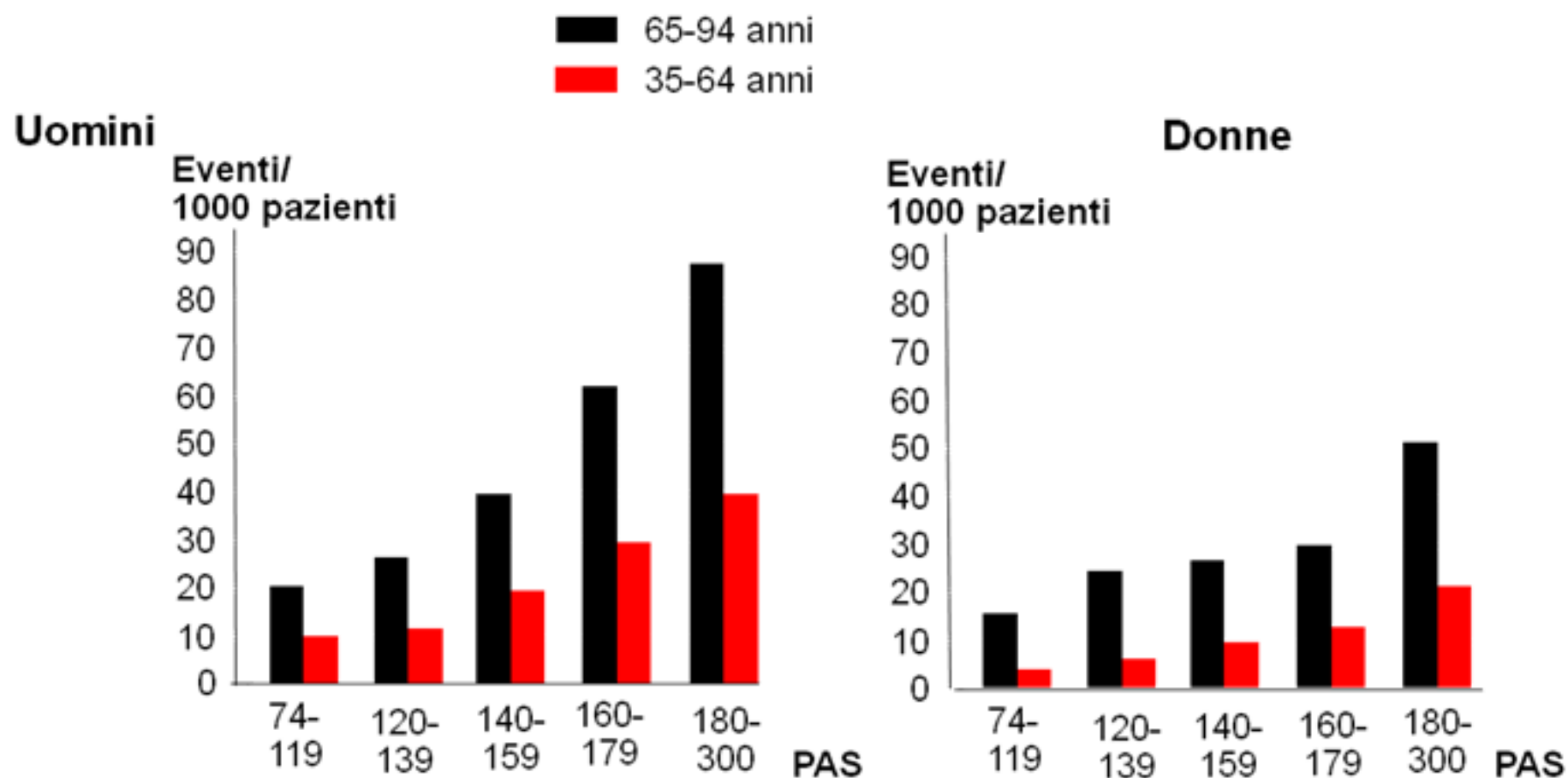
# **L'ipertensione arteriosa nell'anziano**

**Como 23 Ottobre 2015**

**Congresso Regionale CFC**

**Stefano Carugo**

## Pressione Arteriosa e Rischio Cardiovascolare nell'anziano: 30 anni di follow-up dello studio di Framingham

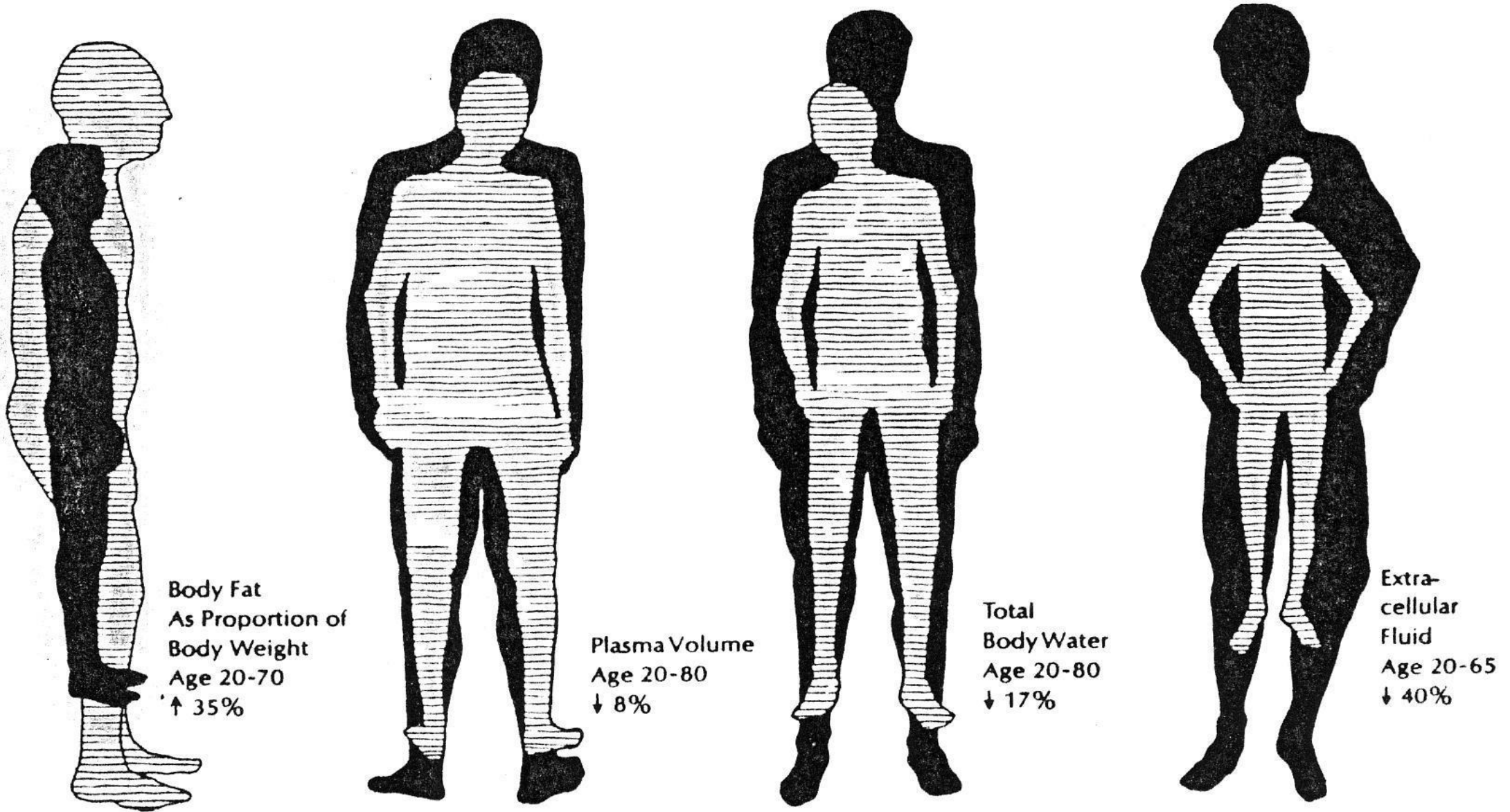


Modificato da Vokonas et al 1988

# Haemodynamic Patterns of Age-Related Changes in Blood Pressure

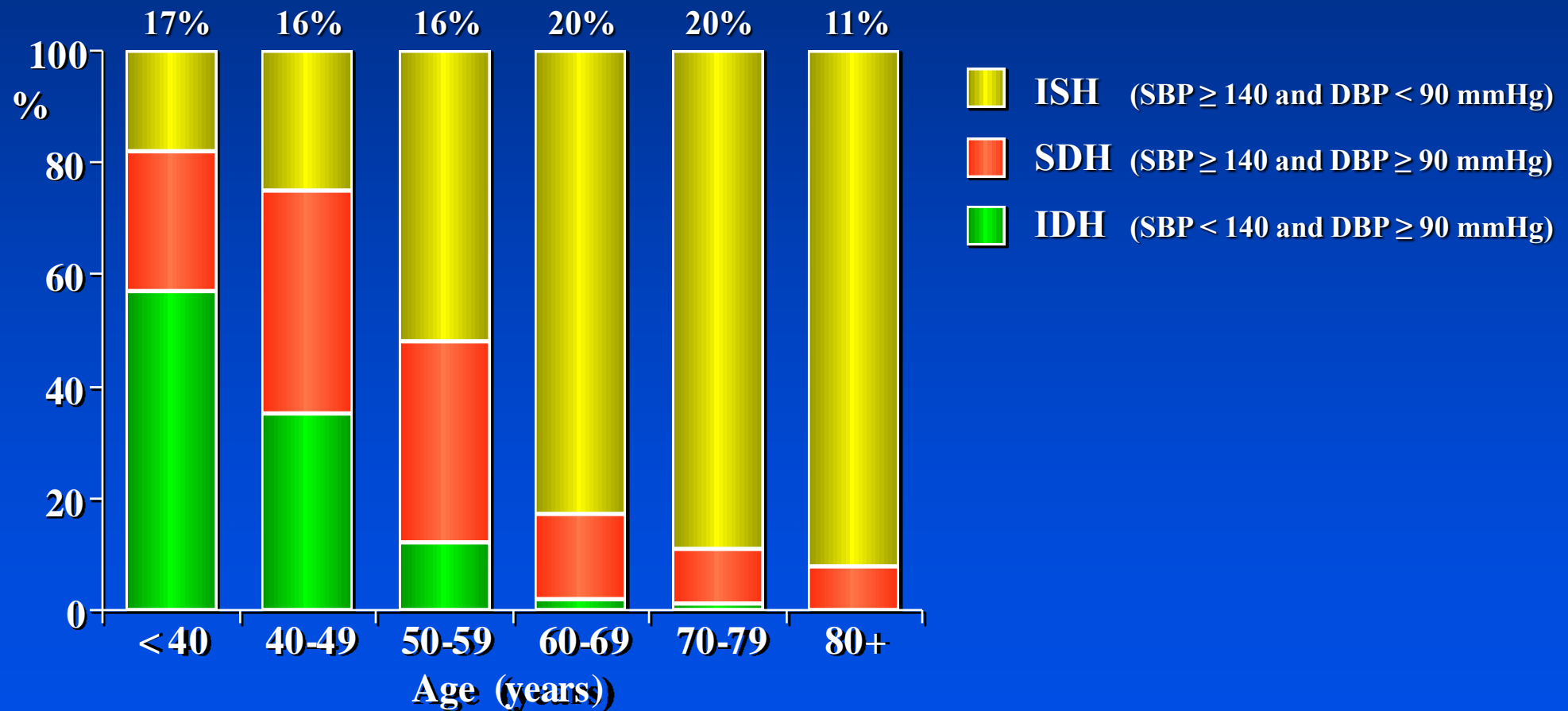
Age (years)	DBP (mmHg)	SBP (mmHg)	MAP (mmHg)	PP (mmHg)	Haemodynamics
30-49	↑	↑	↑	↑	PVR > LAS
50-59	→	↑	→	↑↑	PVR = LAS
≥ 60	↓	↑	→, ↓	↑↑↑	LAS > PVR

PVR = peripheral vascular resistance; LAS = large artery stiffness



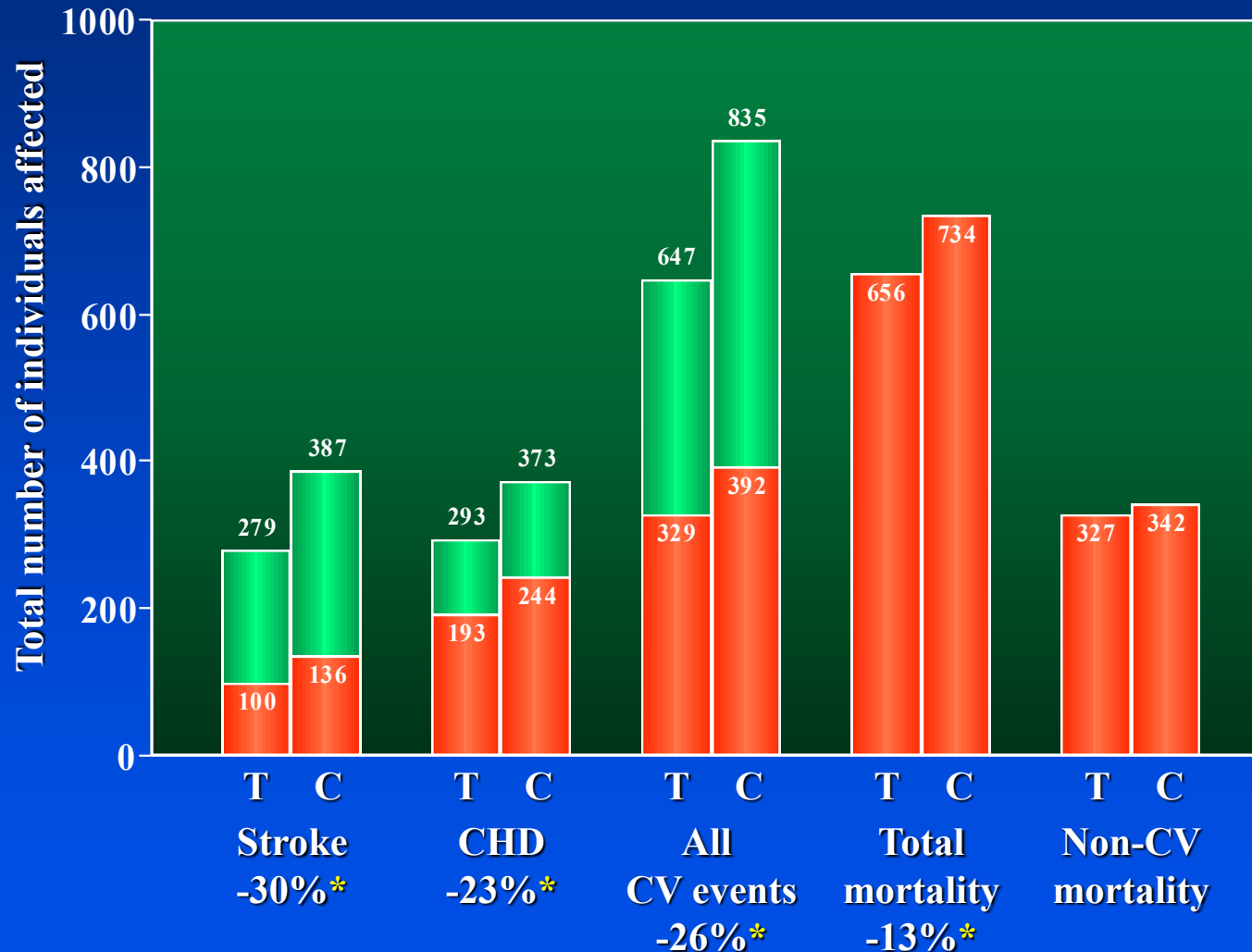
## Modificazioni fisiologiche nell'invecchiamento

# Frequency Distribution of Untreated Hypertensive Individuals by Age and Hypertension Subtype - NHANES III



# Meta-Analysis of 8 Trials in Older Patients with Isolated Systolic Hypertension

## Effects of Antihypertensive Treatment



Analysis included 15693 patients. Blood pressure at entry averaged 174 mmHg systolic and 83 mmHg diastolic.

During follow-up (median 3.8 years), mean difference in blood pressure between treated and control patients was 10.4 mmHg systolic and 4.1 mmHg diastolic



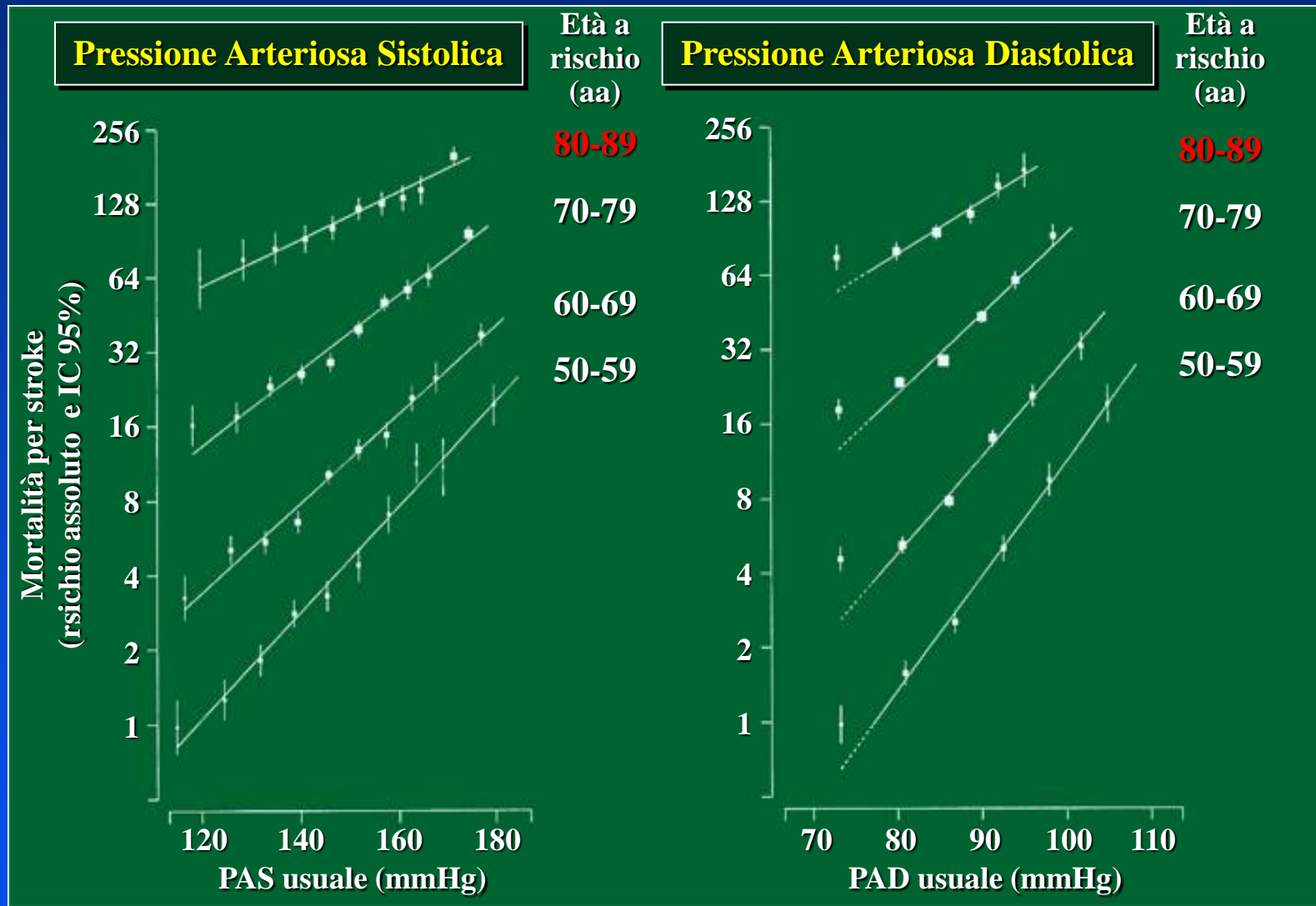
# **L'ipertensione arteriosa nell'ultraottantenne**

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- 1) L'ipertensione arteriosa è un fattore di rischio CV nell'ultraottantenne?**
- 2) Ridurre la pressione arteriosa diminuisce le complicanze CV (danno d'organo, ACC)?**
- 3) Quale terapia antiipertensiva nell'ultraottantenne?**

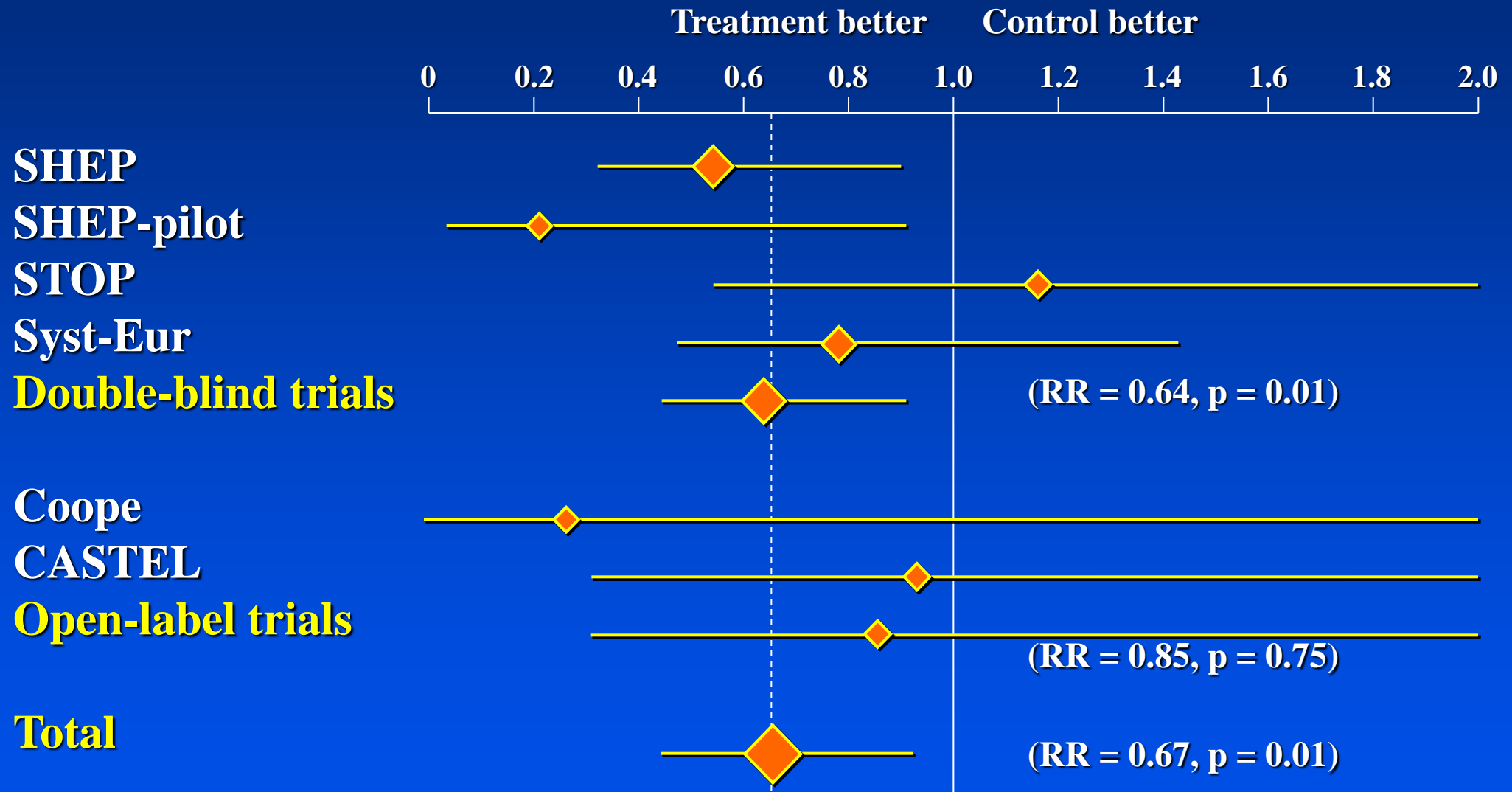
# Mortalità per Stroke

## Rischio in Ogni Decade di Età, vs la PA usuale all'Inizio di Ogni Decade





# Treatment Effect on Relative Risk of Stroke in Patients over 80 Years Old

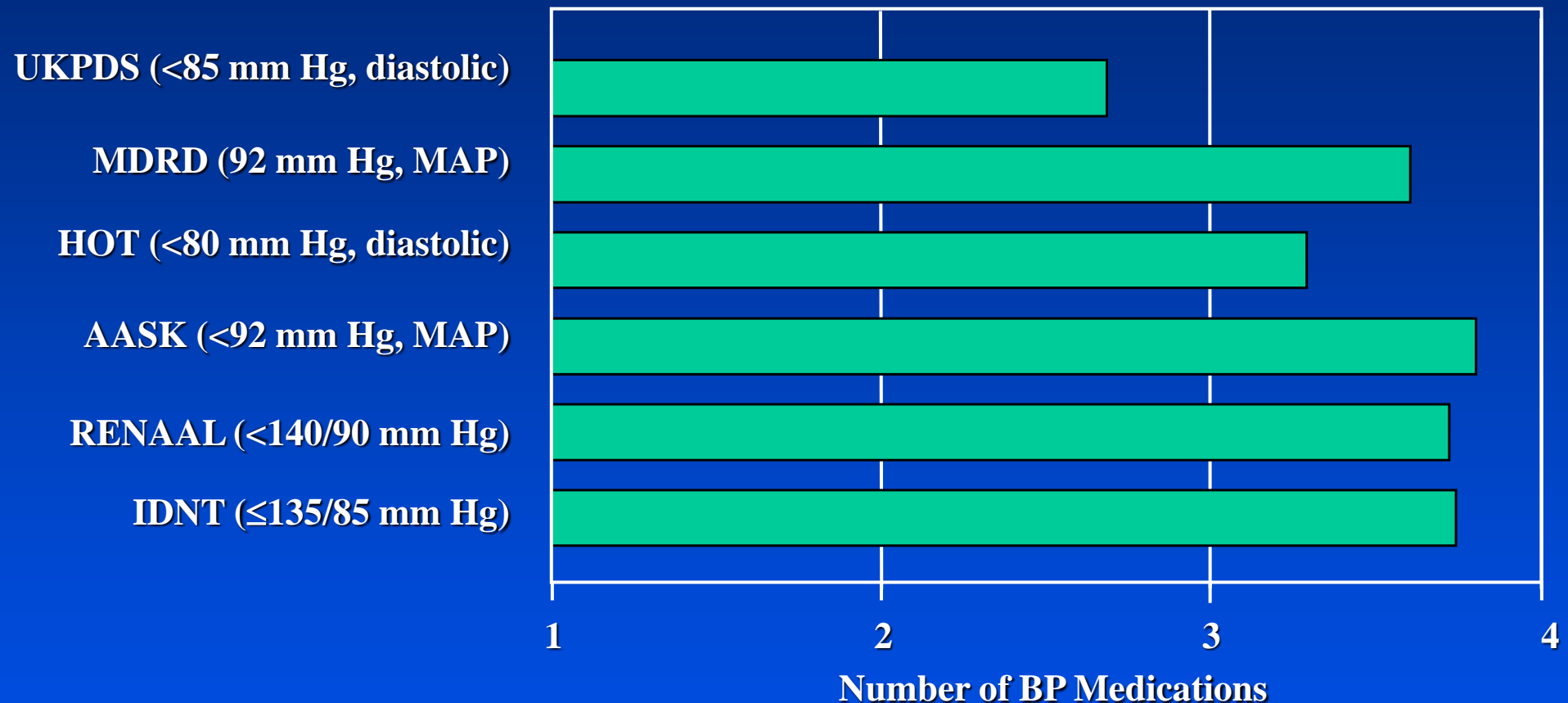


# Quale terapia antiipertensiva nell'ultraottantenne?

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- L'anziano spesso è “pluripatologico” nonché “pluricomplicato”
- Nella maggior parte dei pazienti sono necessari più di un farmaco
- La terapia di combinazione semplifica il trattamento e favorisce la compliance

# Hypertension in High-Risk Patients: Number of Agents Required to Achieve BP Goal



UKPDS=United Kingdom Prospective Diabetes Study; MDRD=Modification of Diet in Renal Disease; HOT=Hypertension Optimal Treatment; AASK=African American Study of Kidney Disease; RENAAL=Reduction of Endpoints in NIDDM with the Angiotensin II Antagonist Losartan; IDNT=Irbesartan Diabetic Nephropathy Trial; MAP=mean arterial pressure.

*Bakris et al. Am J Kidney Dis. 2000;36:646-661; Brenner et al. N Engl J Med. 2001;345:861-869; Lewis et al. N Engl J Med. 2001;345:851-860*

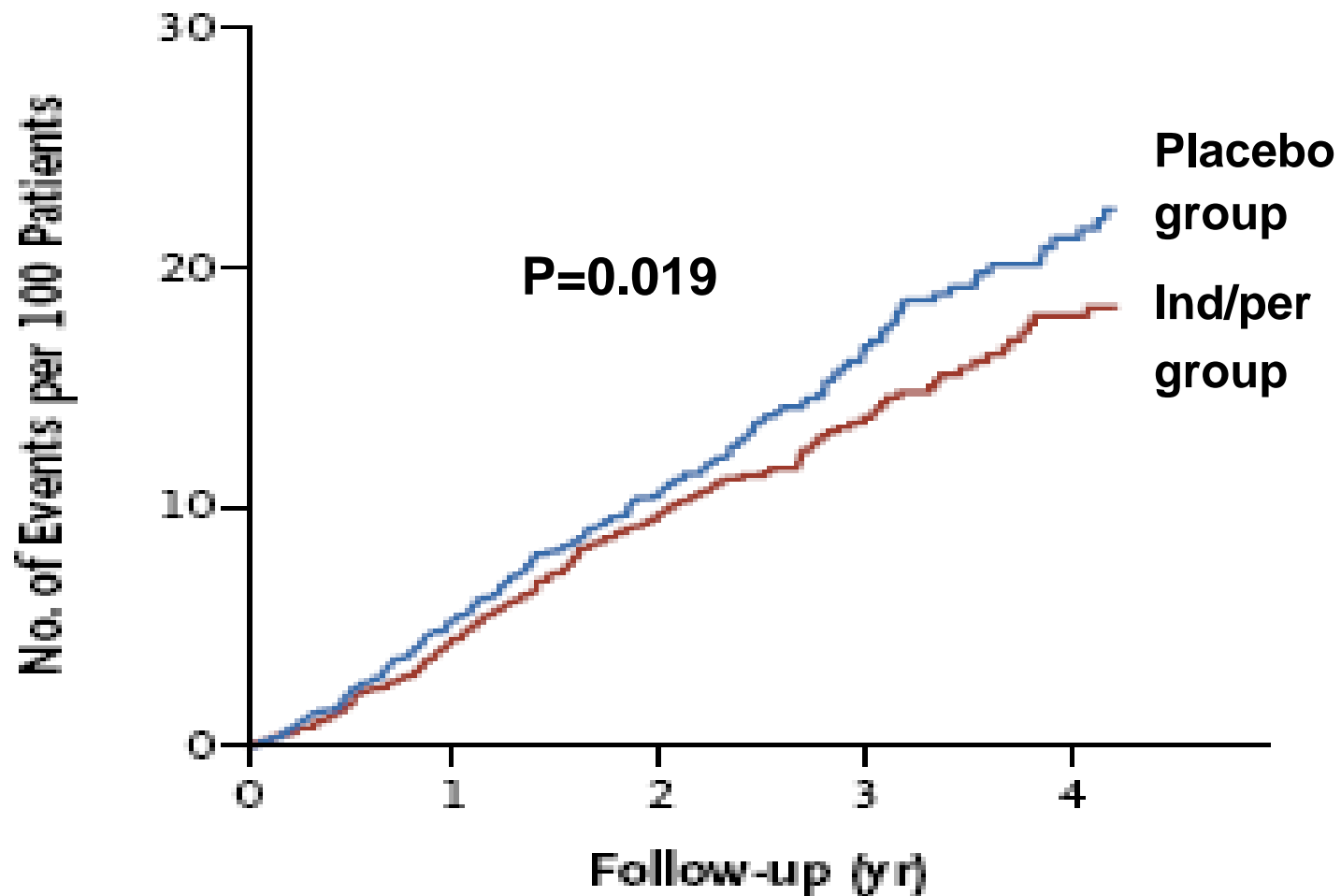
Nell'anziano riduco o non la PA?

Fino a che punto?

Quale è l'età limite?

Invecchiando la PA alta fa bene o male?

# Total Mortality (21% reduction)



## No. At Risk

Placebo group

1912

1492

814

379

202

Ind/per group

1933

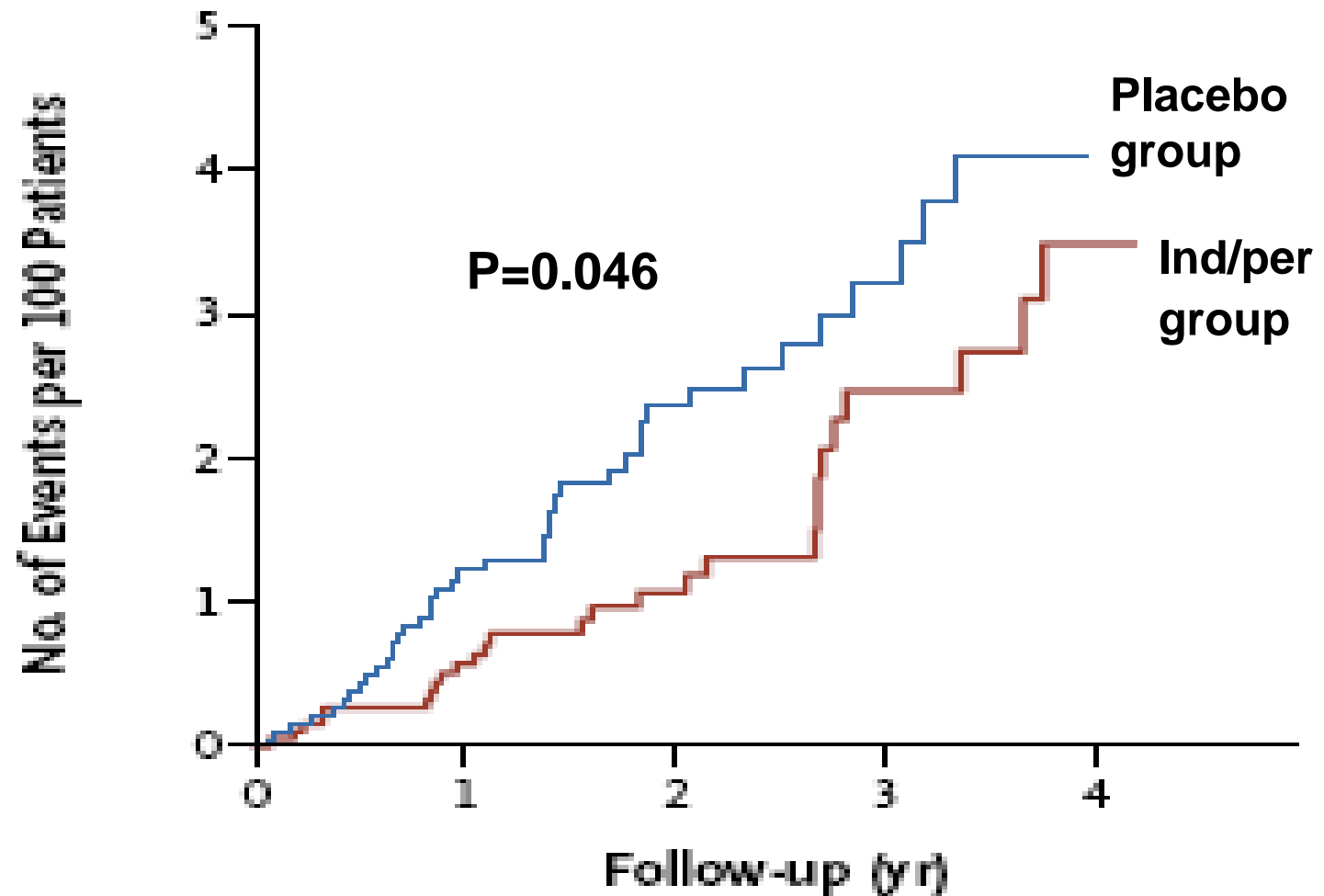
1565

877

420

231

# Fatal Stroke (39% reduction)



## No. At Risk

Placebo group

1912

1492

814

379

202

Ind/per group

P

1933

1565

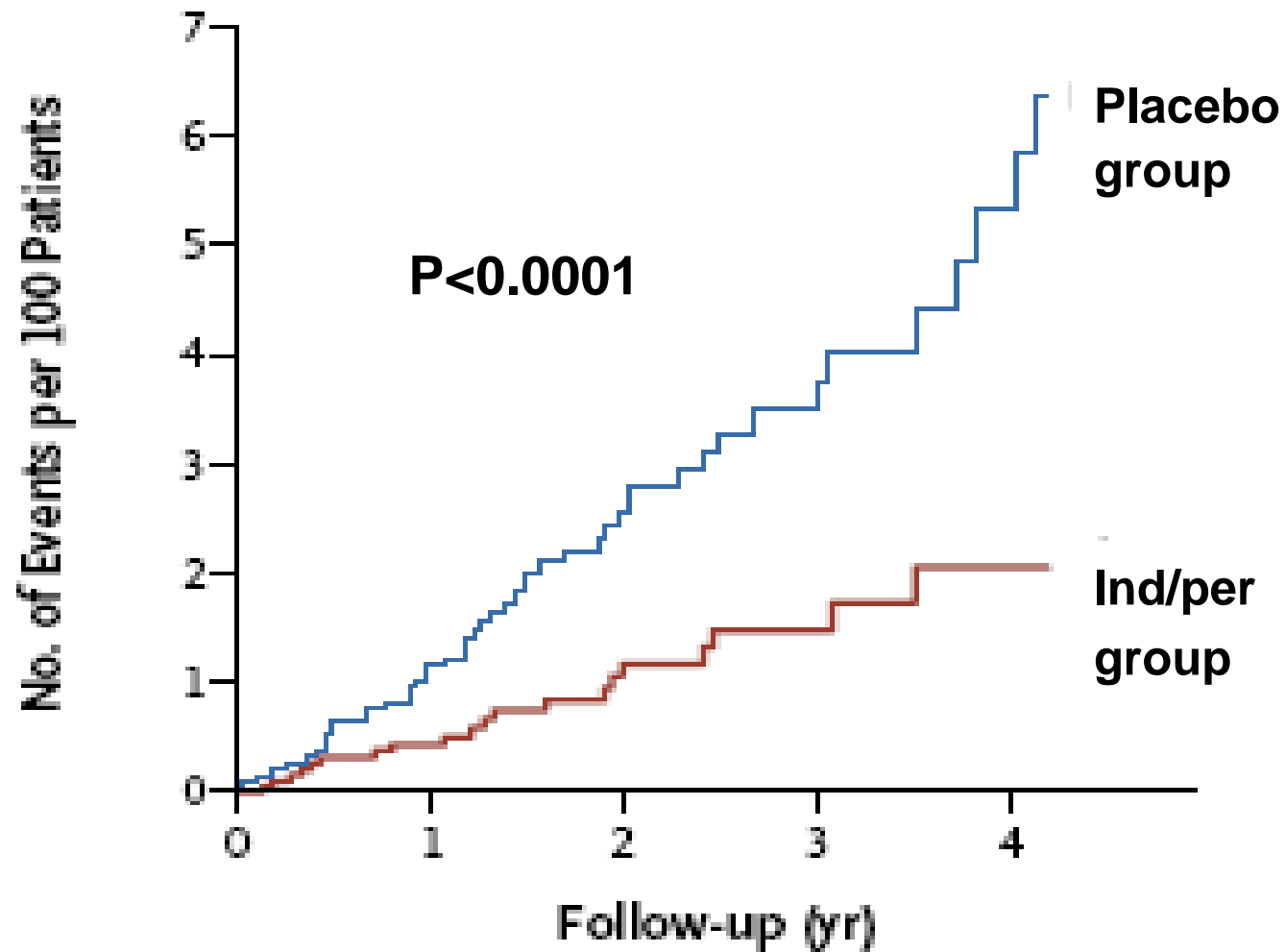
877

420

231



# Heart Failure (64% reduction)



**No. At Risk**

**Placebo group**

1912

1480

794

367

188

**Ind/per group**

1933

1559

872

416

228

# Low BP a Risk Factor for Death in the Very Elderly

*“Sufficiently high BP may be necessary to guarantee adequate cardiac and cerebral perfusion”*

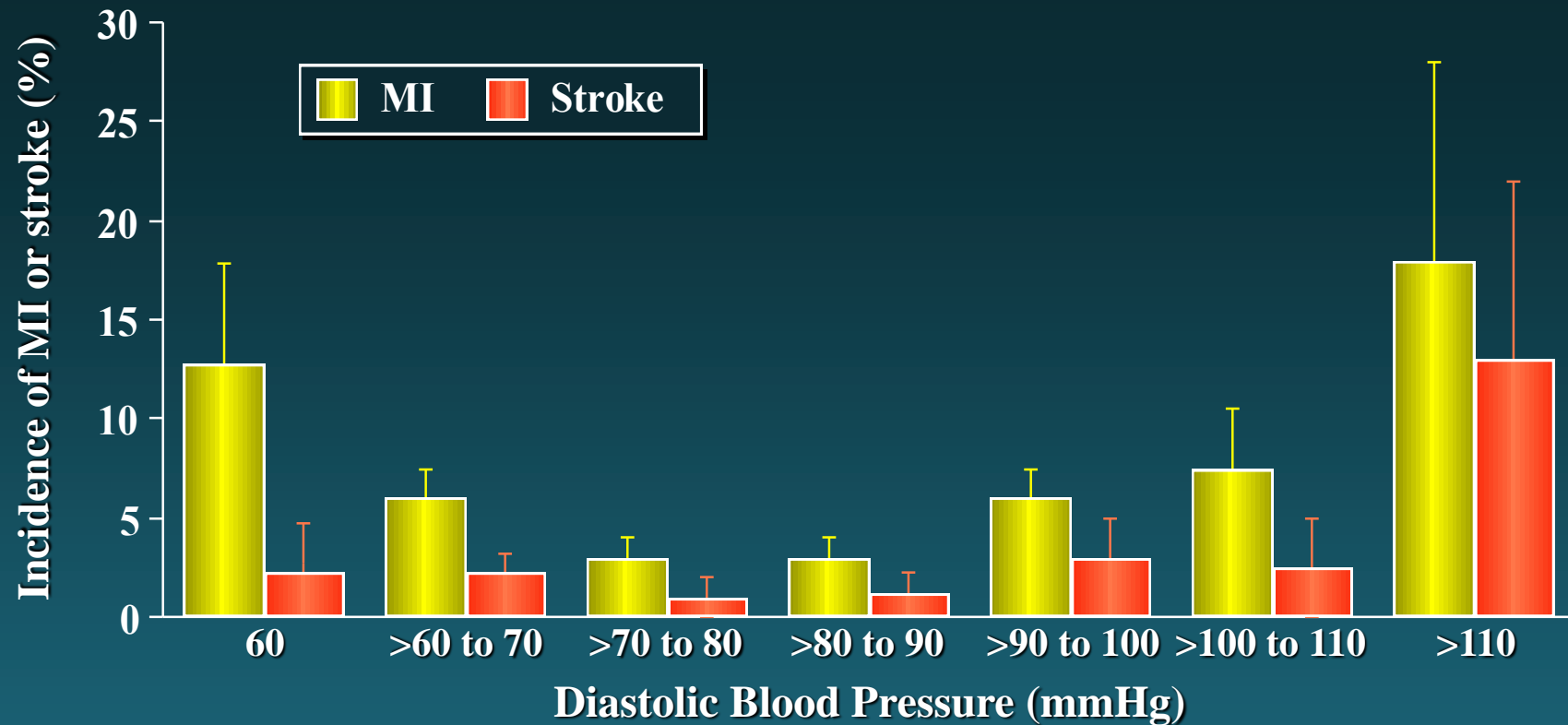
*J Am Geriatric Soc 2006; 54:912-914*

# La sincope



**Il primo problema: la diastolica.....**

# Incidence of Total Myocardial Infarction and Total Stroke by DBP Strata



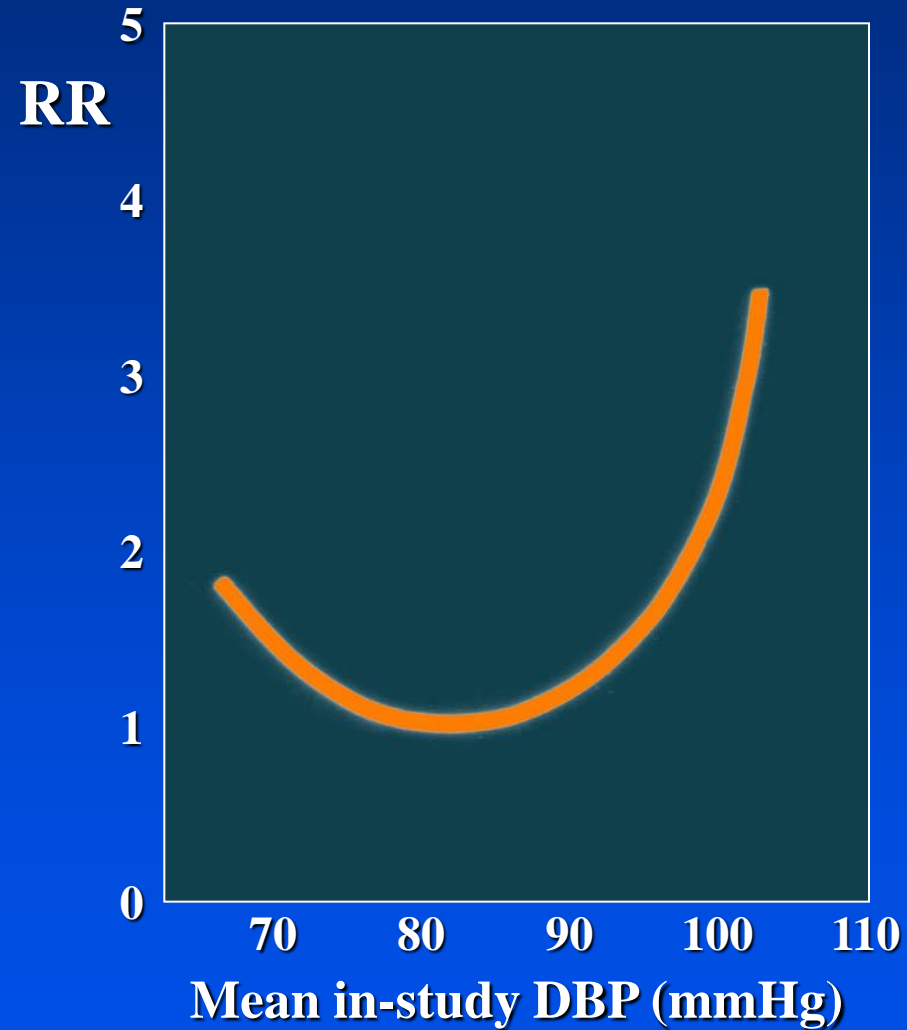
## MI

Patients with MI (n)	29	135	387	255	71	14	8
Total patients (n)	177	2239	11324	7376	1214	201	43
Mean SBP (mmHg)							
Patients with MI	127.0	131.9	135.2	143.8	158.3	166.9	191.4
Patients without MI	126.2	129.6	131.4	139.3	155.2	170.3	85.7

## Stroke

Patients with stroke (n)	4	50	151	116	44	5	6
Total patients (n)	175	2253	11320	7366	1217	199	45
Mean SBP (mmHg)							
Patients with stroke	112.2	132.7	136.3	143.8	161.1	171.1	177.9
Patients without stroke	126.7	129.6	131.5	139.3	155.2	169.9	187.9

## J-Curve - 12 Years Follow-Up

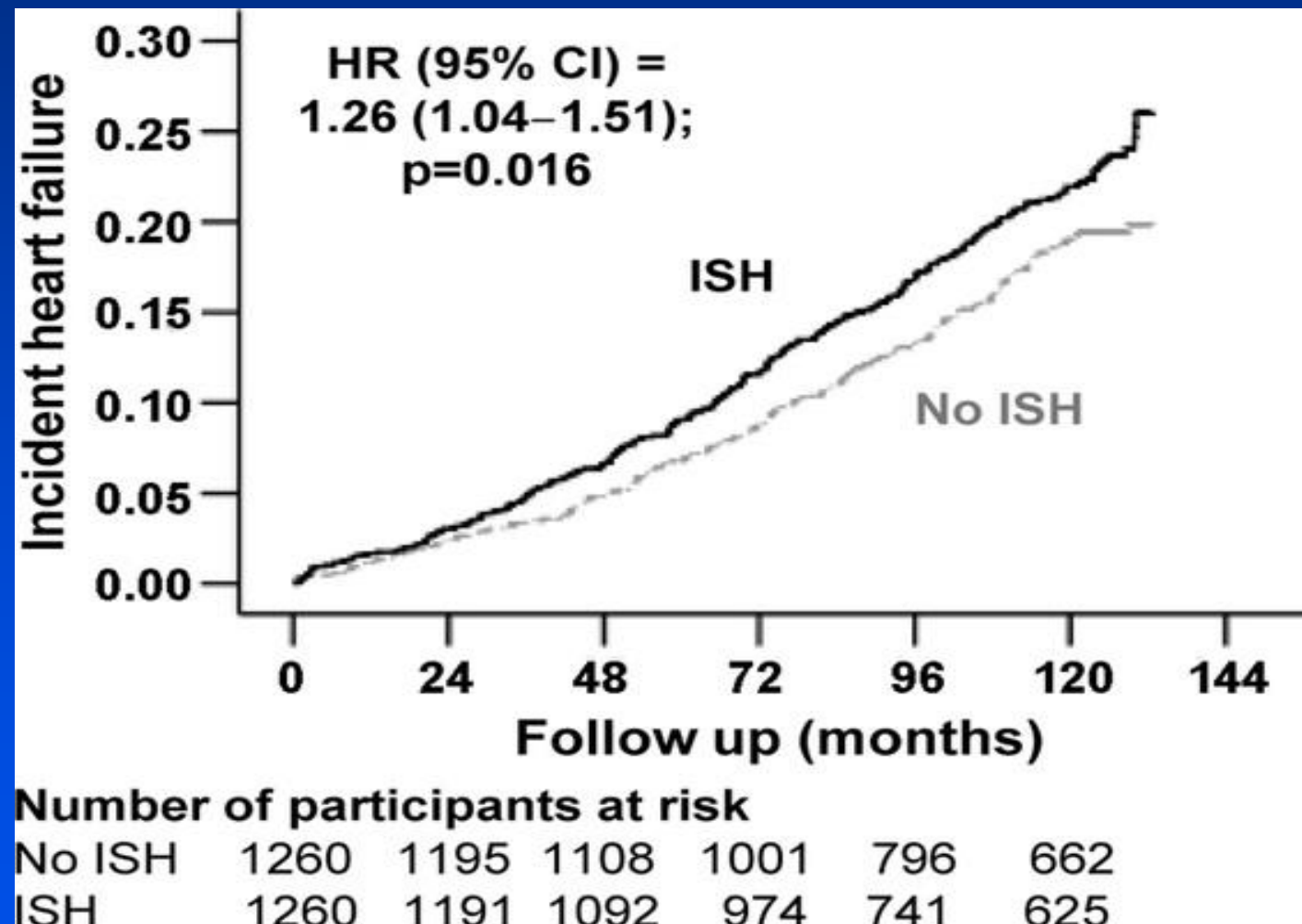




# Isolated Systolic Hypertension and Incident Heart Failure in Older Adults

## A Propensity-Matched Study

O. James Ekundayo, Richard M. Allman, Paul W. Sanders, Inmaculada Aban, Thomas E. Love, Donna Arnett, Ali Ahmed



# Lower Systolic Blood Pressure Is Associated with Greater Mortality in People Aged 85 and Older

Lena Molander, Bsc, Hugo Lövheim, MD, PhD, Tove Norman, MD, Peter Nordström, MD, PhD, and Yngve Gustafson, MD, PhD

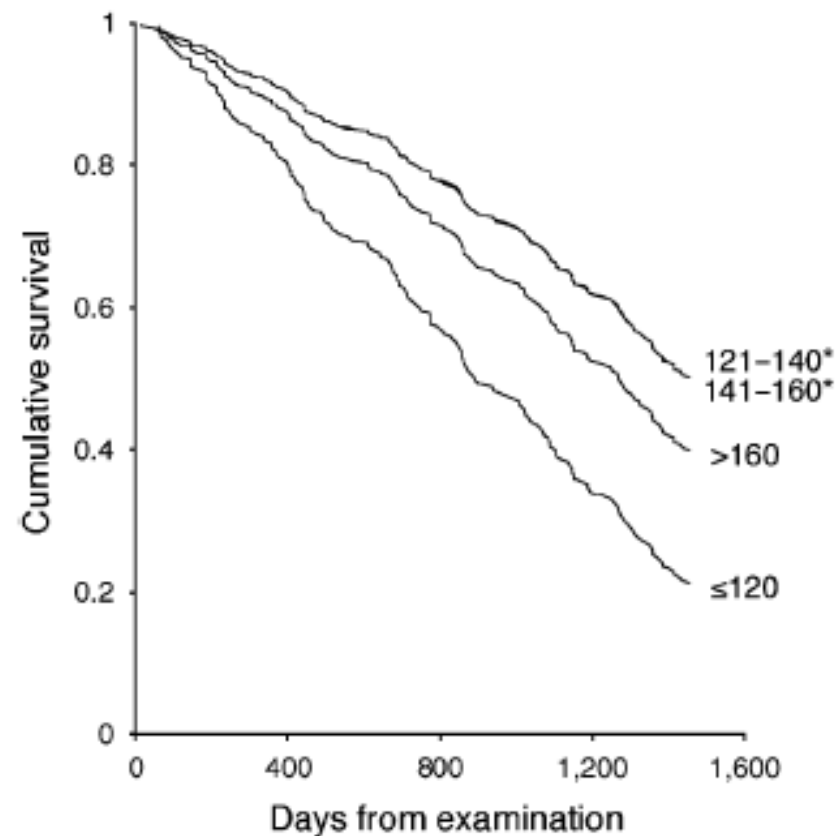


Figure 1. Survival curve based on multivariate Cox regression. *P*-values of comparison with the  $\leq 120$  mmHg group: 121-140 mmHg,  $P < .001$ ; 141-160 mmHg,  $P < .001$ ;  $> 160$  mmHg,  $P = .03$ . \*The curves for these two groups overlap.

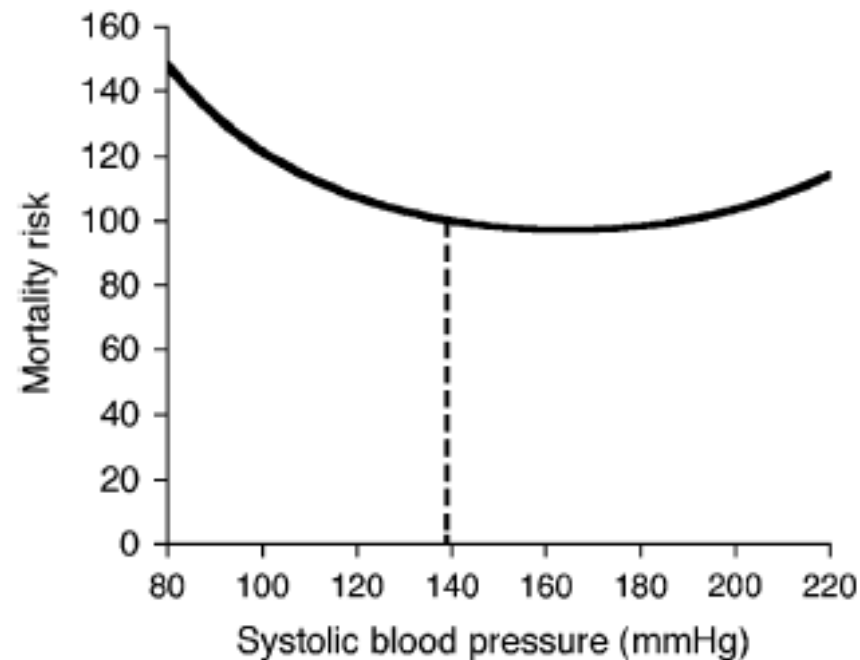


Figure 2. Graph of multivariate Cox regression. Adjusted for sex, age, Mini-Mental State Examination score, activities of daily living according to Barthel score, atrial fibrillation, and diabetes mellitus. Risk associated with systolic blood pressure 140 mmHg (dotted line) was used as index (= 100).

**CONCLUSION:** Lower SBP seems to be associated with greater mortality in people aged 85 and older, irrespective of health status. There are indications of a U-shaped correlation between SBP and mortality, and the optimal SBP for this age group could be above 140 mmHg. *J Am Geriatr Soc* 56:1853–1859, 2008.

# Quale futuro nel trattamento dell'ipertensione nei grandi anziani?

**CREG**

**POLIPILLOLA**

**DISTRIBUTORI AUTOMATICI  
CONFEZIONI GUIDATE**



# Cautele nell'anziano iperteso

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- **Controlli pressori ripetuti**
- **Misurazione pressoria anche in ortostatismo**
- **Ricerca soffi vascolari carotidei**
- **Patologie e farmaci concomitanti**
- **Riduzione graduale dei valori pressori**
- **Schema terapeutico semplice e dettagliato**

**Grazie per l'attenzione**