



Associazione
Medici
Endocrinologi



ITALIAN CHAPTER

2nd AME Diabetes Update

Diabete mellito e danno macrovascolare:
gestione clinica

Bologna, 10 - 11 febbraio 2017

Novotel Bologna Fiera



III SESSIONE

**Trattamento e follow-up dei parametri extraglicemici
dopo la dimissione**

TERAPIA ANTI-IPERTENSIVA

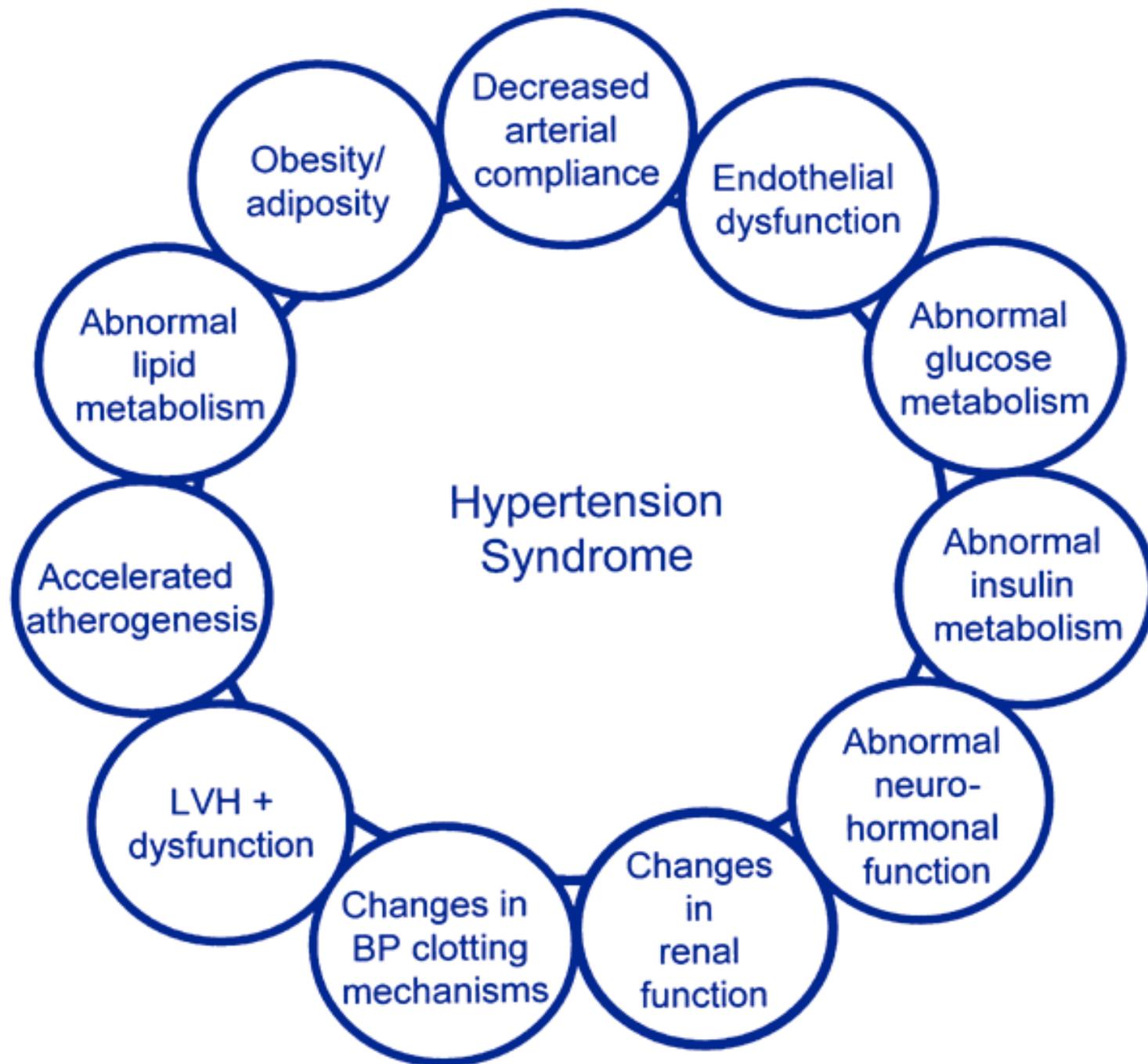
Silvio Settembrini

Servizio di Endocrinologia Diabetologia e Malattie Metaboliche - DS 26

Unita' di Nefro - Diabetologia - UOC di Nefrologia e Dialisi

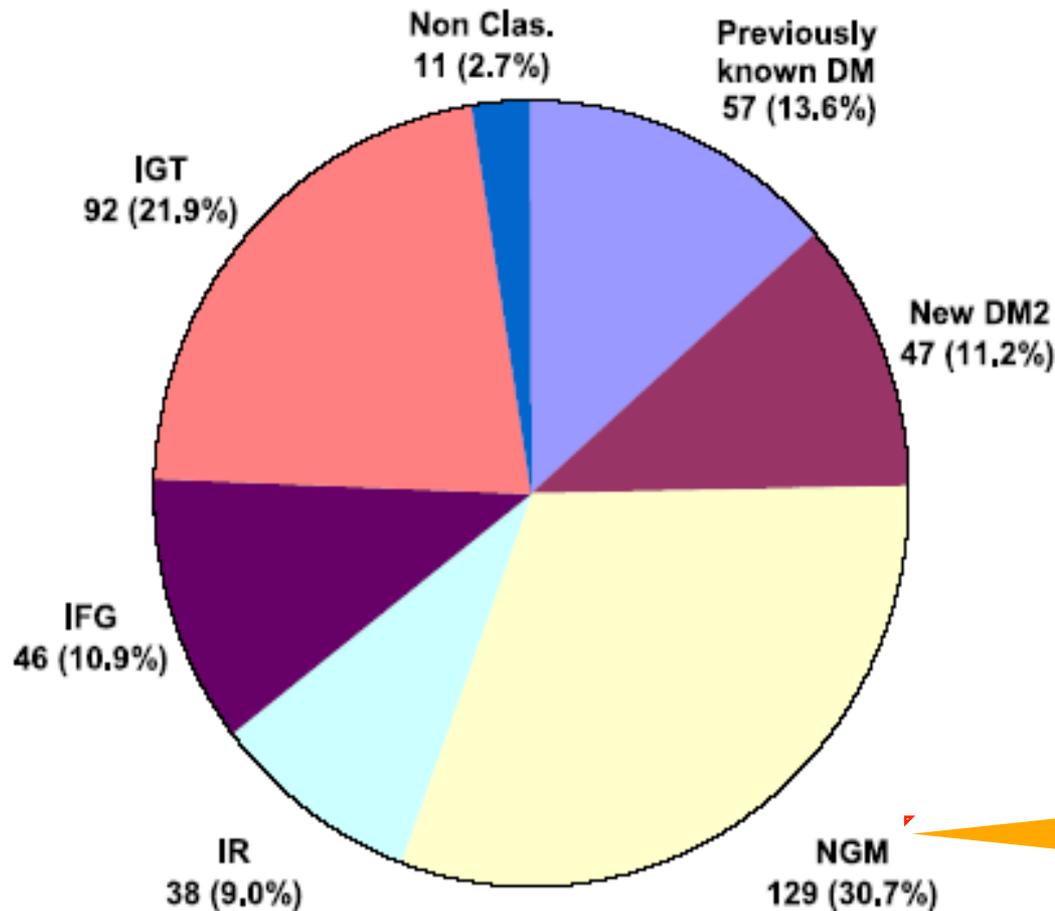
Ospedale dei Pellegrini - Napoli





Metabolismo glucidico in 420 pazienti ipertesi essenziali

Classificazione dei soggetti in base al tipo di alterazione metabolica



NGM: normale metabolismo glucidico

IR: resistenza insulinica

IFG: alterata glicemia a digiuno

IGT: ridotta tolleranza al glucosio

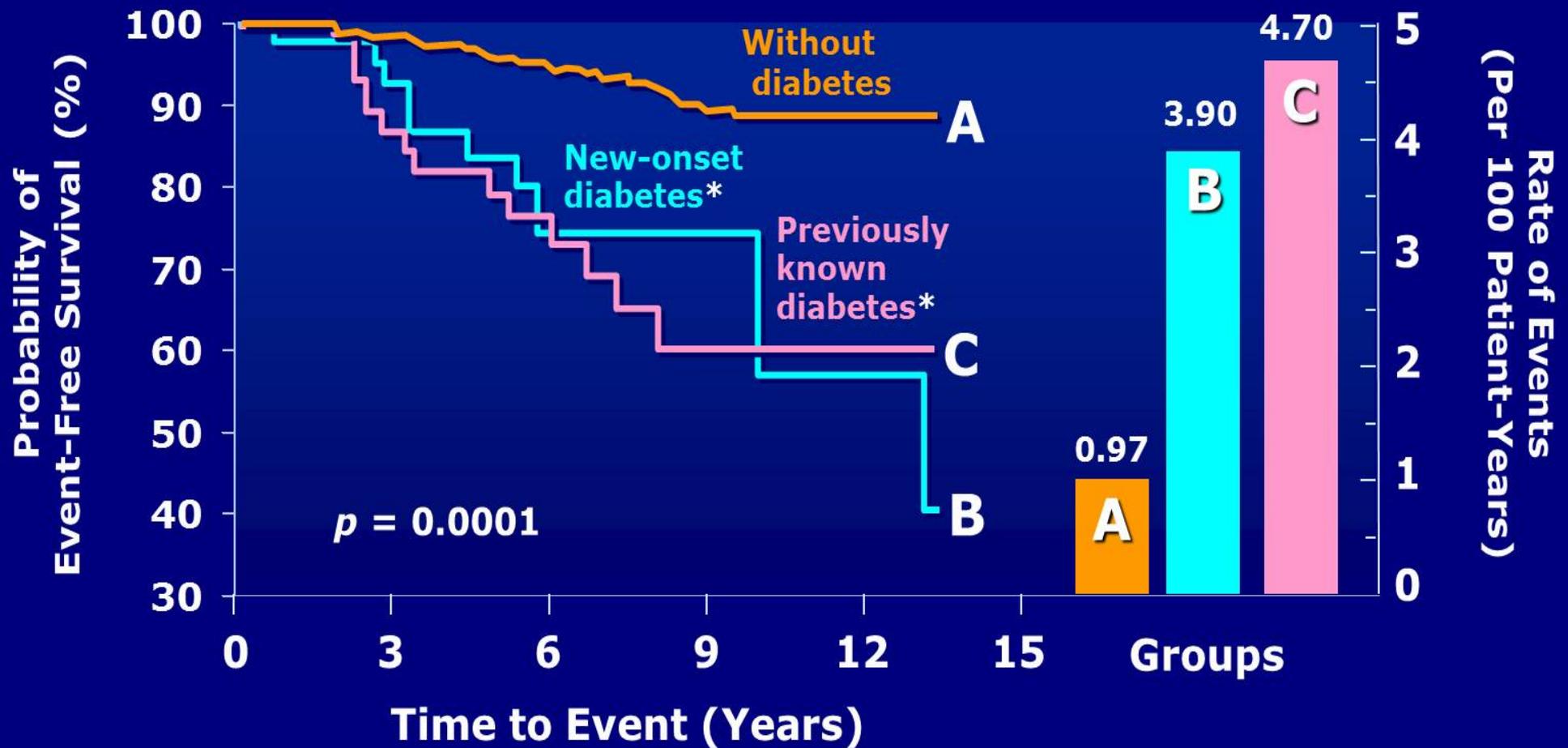
NonClas.: nonclassificabile

Previously known DM : diabete già noto

New DM2: diabete non noto in precedenza

solo il 30% degli ipertesi non ha problemi gluco metabolici

Cardiovascular Events in Treated Hypertensive Diabetic Patients



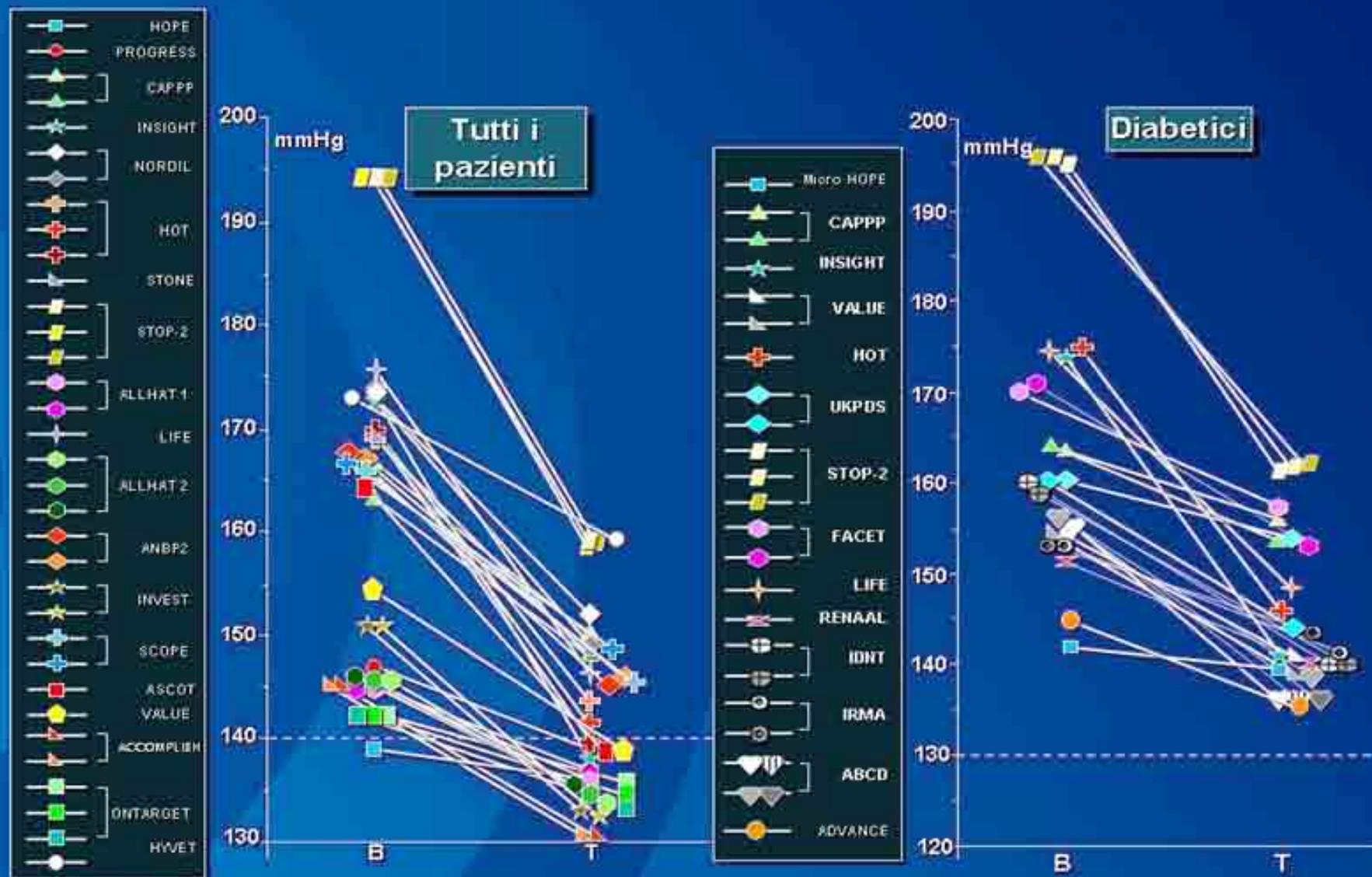
*Patients who had new-onset or prior diabetes were about 3 times more likely to have a cardiovascular event than were those who did not have diabetes.

Reprinted from Verdecchia P, et al. *Hypertension*. 2004;43:963-969, with permission from Lippincott Williams & Wilkins.

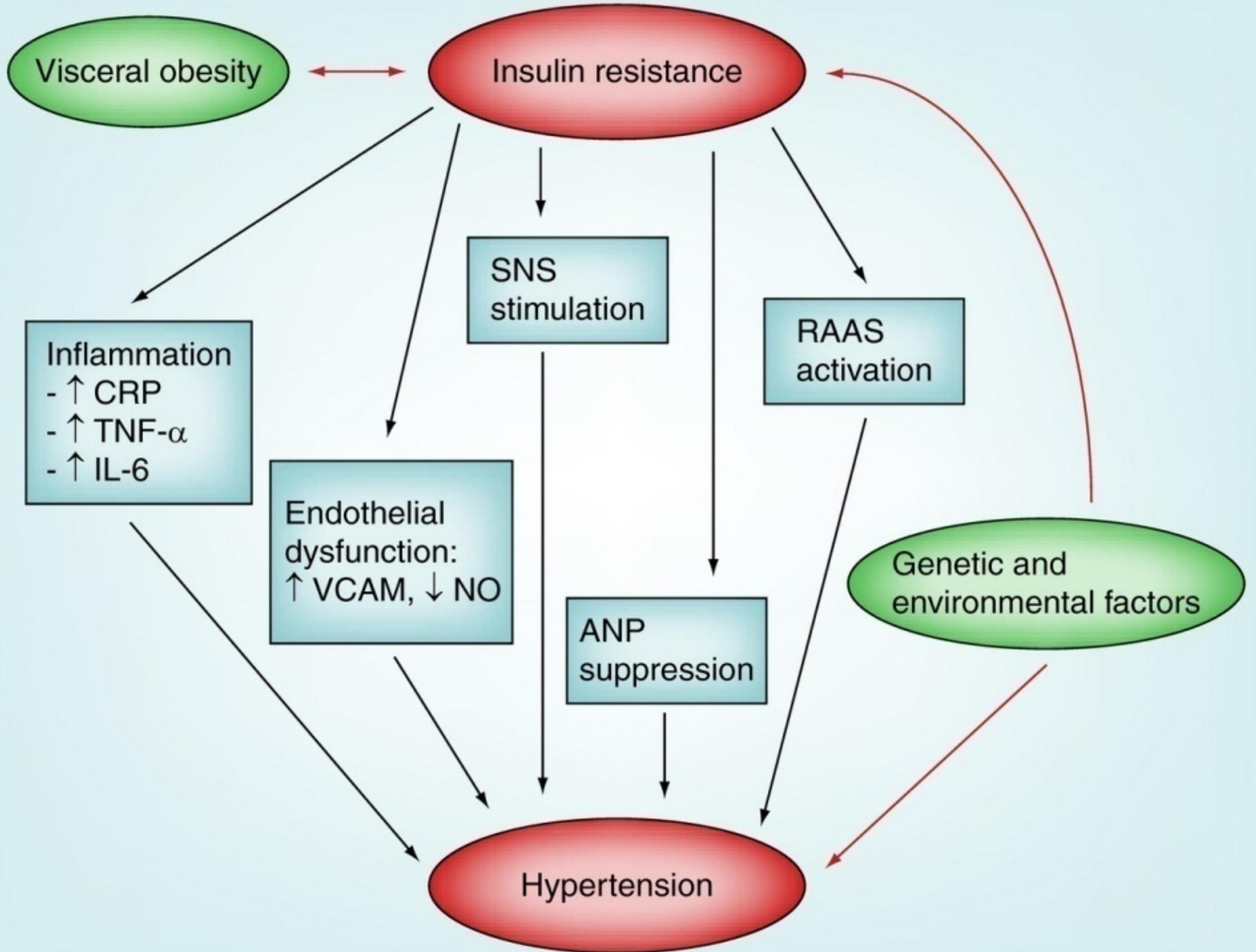
Classes of Antihypertensive Drugs

- **Aldosterone receptor antagonists (blockers)**
- **Angiotensin II antagonists**
- **Angiotensin-converting enzyme inhibitors**
- **α -Blockers**
 - **α 1-Selective**
 - **Nonselective**
- **β -Blockers**
 - **β -1/ β -2**
 - **β -1 predominant**
 - **α/β**
 - **Intrinsic sympathomimetic activity**
- **Calcium channel antagonists**
 - **Nondihydropyridine**
 - **Dihydropyridine**
- **Central α_2 agonists**
- **Direct renin inhibitors**
- **Direct vasodilators**
- **Diuretics**
 - **Thiazide-type**
 - **Loop-type**
 - **Potassium-sparing**
- **Ganglionic blockers**

Controllo pressorio negli studi*



* la maggior parte dei pazienti era in terapia con ≥ 2 farmaci



Angiotensin-Converting Enzyme Inhibitors, Angiotensin II Receptor Blockers and Diabetes: A Meta-Analysis of Placebo-Controlled Clinical Trials

Giuliano Tocci¹, Francesco Paneni¹, Francesca Palano¹, Sebastiano Sciarretta¹, Andrea Ferrucci¹, Theodore Kurtz², Giuseppe Mancía³ and Massimo Volpe^{1,4}

BACKGROUND

To determine whether the administration of angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs) on top of standard cardiovascular (CV) therapies may reduce the incidence of new onset diabetes (NOD) in placebo-controlled clinical trials. The effects of these drugs on CV and non-CV mortality were also tested.

METHODS

We performed a meta-analysis of all randomized clinical trials (11 trials, $n = 84,363$ patients, aged 64.2 ± 5.86 years), published until 14 March 2010, in which ACE inhibitors or ARBs were compared with placebo and NOD incidence, CV, and non-CV mortality were reported.

RESULTS

Over an average follow-up of 4.0 ± 1.0 years, there were 1,284/15,142 (8.5%) cases of NOD in active-treated and 1,411/15,130 (9.3%) cases in placebo-treated patients in the ACE inhibitor trials, and 2,330/18,756 (12.4%) cases in active-treated and 2,669/18,800 (14.2%) cases in placebo-treated patients in the ARB trials. Overall,

active therapy reduced NOD compared to placebo (odds ratio (OR) 95%, confidence interval (CI): 0.8 (0.8–0.9); $P < 0.01$). Both ACE inhibitors (OR 95%, CI: 0.8 (0.7–1.0); $P = 0.07$) and ARBs (OR 95%, CI: 0.8 (0.8–0.9); $P < 0.01$) reduced NOD as compared to placebo. Active treatment reduced CV mortality (OR 95%, CI: 0.9 (0.8–1.0); $P < 0.01$) and had a favorable impact on non-CV mortality (OR 95%, CI: 0.7 (0.9–1.0); $P = 0.2$) as compared to placebo.

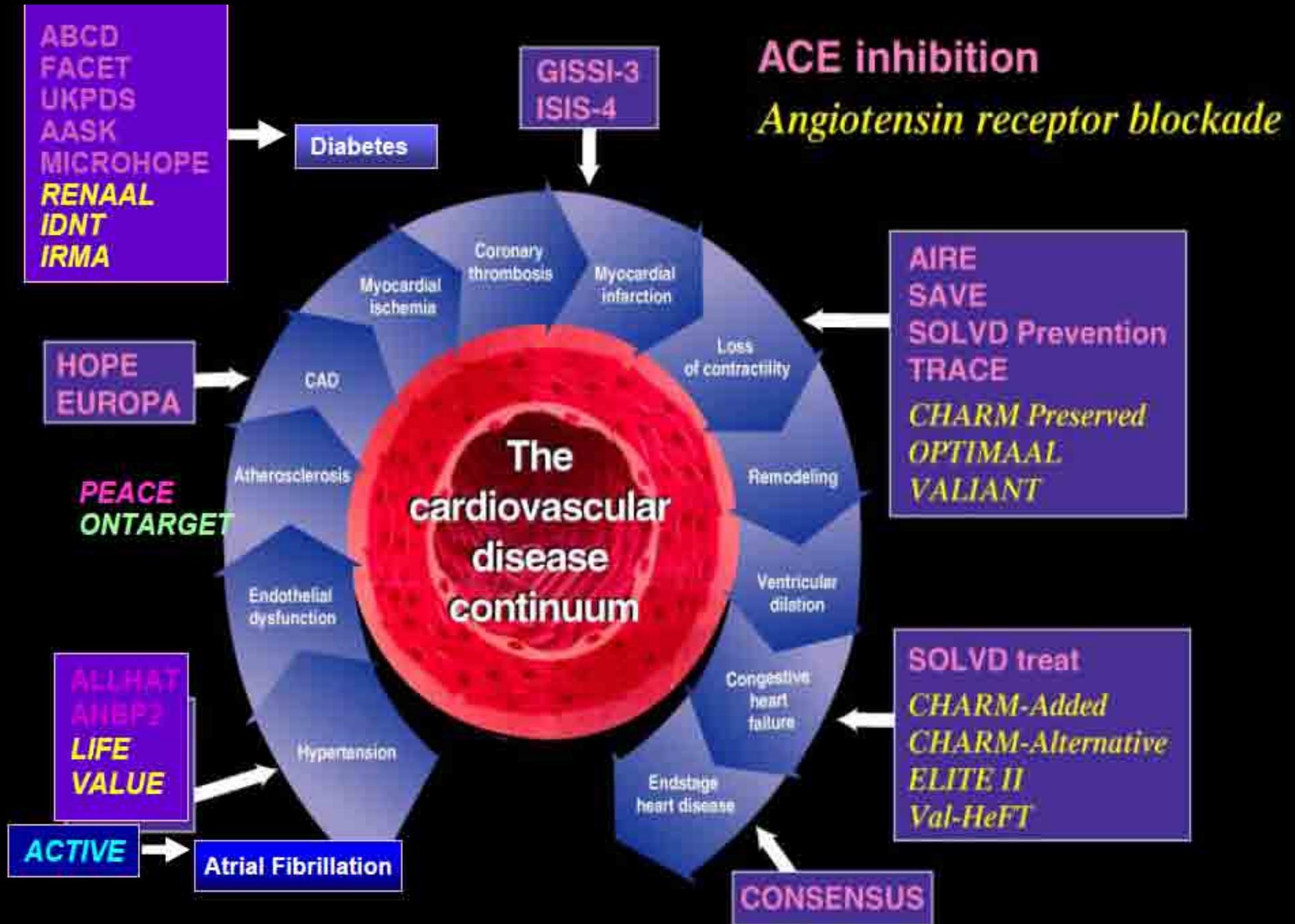
CONCLUSIONS

Our findings demonstrated that ACE inhibitors or ARBs should be preferred in patients with clinical conditions that may increase risk of NOD, since these drugs reduced NOD incidence. In addition, these drugs have favorable effects on CV and non-CV mortality in high CV risk patients.

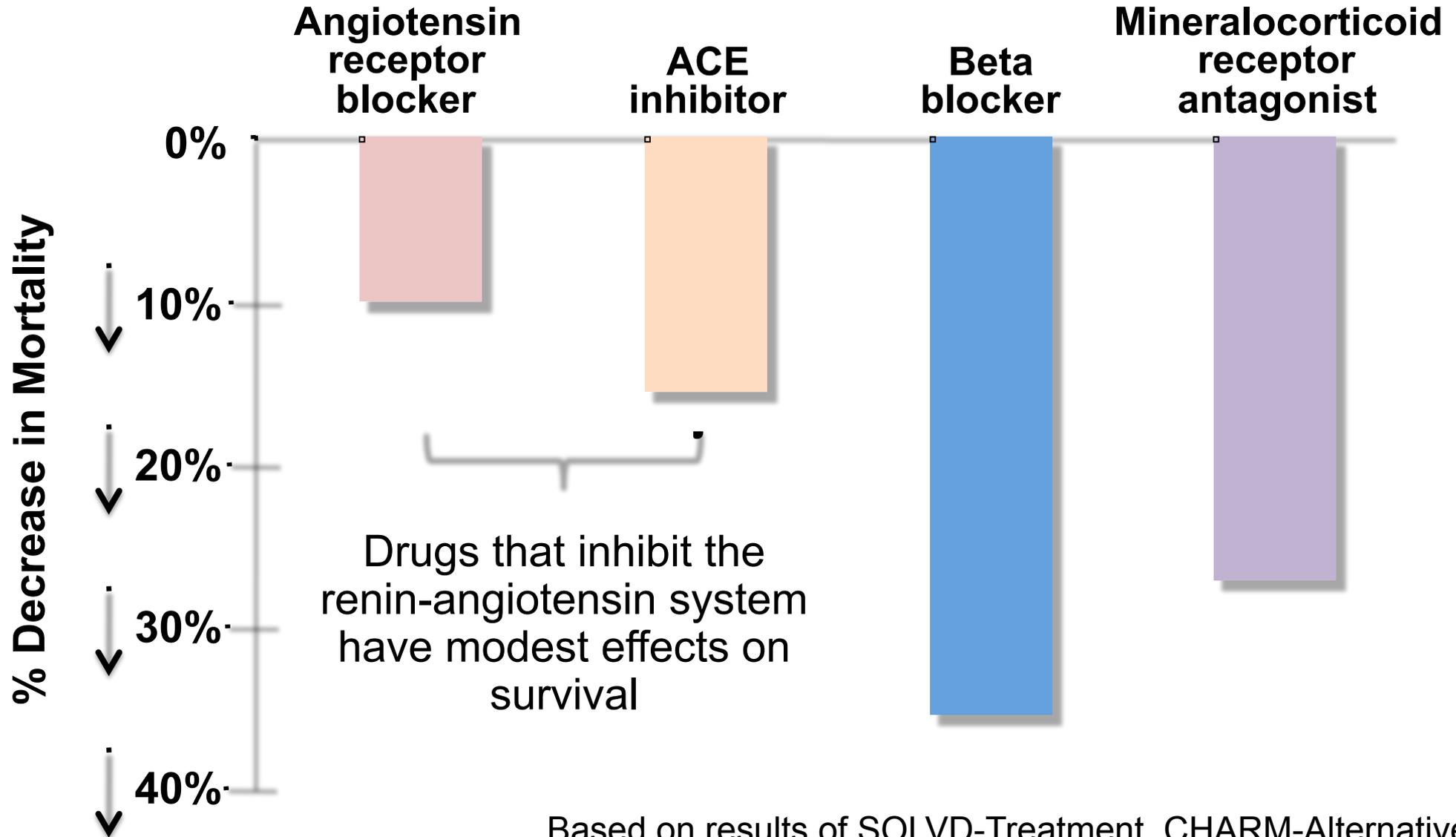
Keywords: angiotensin-converting enzyme inhibitors; angiotensin II receptor blockers; blood pressure; cardiovascular mortality; hypertension; meta-analysis; new onset diabetes mellitus; non-cardiovascular mortality; randomized clinical trials

American Journal of Hypertension, advance online publication 17 February 2011; doi:10.1038/ajh.2011.8

Trial clinici con modulazione del RAAS



Drugs That Reduce Mortality in Heart Failure With Reduced Ejection Fraction



Based on results of SOLVD-Treatment, CHARM-Alternative, COPERNICUS, MERIT-HF, CIBIS II, RALES and EMPHASIS-HF

Effects of intensive blood pressure reduction on myocardial infarction and stroke in diabetes: a meta-analysis in 73 913 patients

Gianpaolo Reboldi^a, Giorgio Gentile^a, Fabio Angeli^b, Giuseppe Ambrosio^c, Giuseppe Mancina^d and Paolo Verdecchia^e

Objective Guidelines generally recommend intensive lowering of blood pressure (BP) in patients with type 2 diabetes. There is uncertainty about the impact of this strategy on case-specific events. Thus, we generated estimates of the effects of BP reduction on the risk of myocardial infarction (MI) and stroke in diabetic patients.

Methods We selected studies which compared different BP-lowering agents and different BP intervention strategies in patients with diabetes. Outcome measures were MI and stroke. We abstracted information about study design, intervention, population, outcomes, and methodological quality for a total of 73 913 patients with diabetes (295 652 patient-years of exposure) randomized in 31 intervention trials.

Results Overall, experimental treatment reduced the risk of stroke by 9% ($P=0.0059$), and that of MI by 11% ($P=0.0015$). Allocation to more-tight, compared with less-tight, BP control reduced the risk of stroke by 31% [relative risk (RR) 0.61, 95% confidence interval (CI) 0.48–0.79], whereas the reduction in the risk of MI approached, but did not achieve, significance [odds ratio (OR) 0.87, 95% CI 0.74–1.02]. In a meta-regression analysis, the risk of stroke decreased by 13% (95% CI 5–20, $P=0.002$) for each 5-mmHg reduction in SBP, and by 11.5% (95% CI 5–17, $P<0.001$) for each 2-mmHg reduction in DBP. In contrast, the risk of MI did not show any association with the extent of BP reduction (SBP: $P=0.793$; DBP: $P=0.832$).

Conclusion In patients with diabetes, protection from stroke increases with the magnitude of BP reduction. We were unable to detect such a relation for MI.



Trials comparing an actively treated group with a placebo or less actively treated group in patients with type 2 diabetes mellitus.



Giuseppe Mancia *Circulation*. 2010;122:847-849

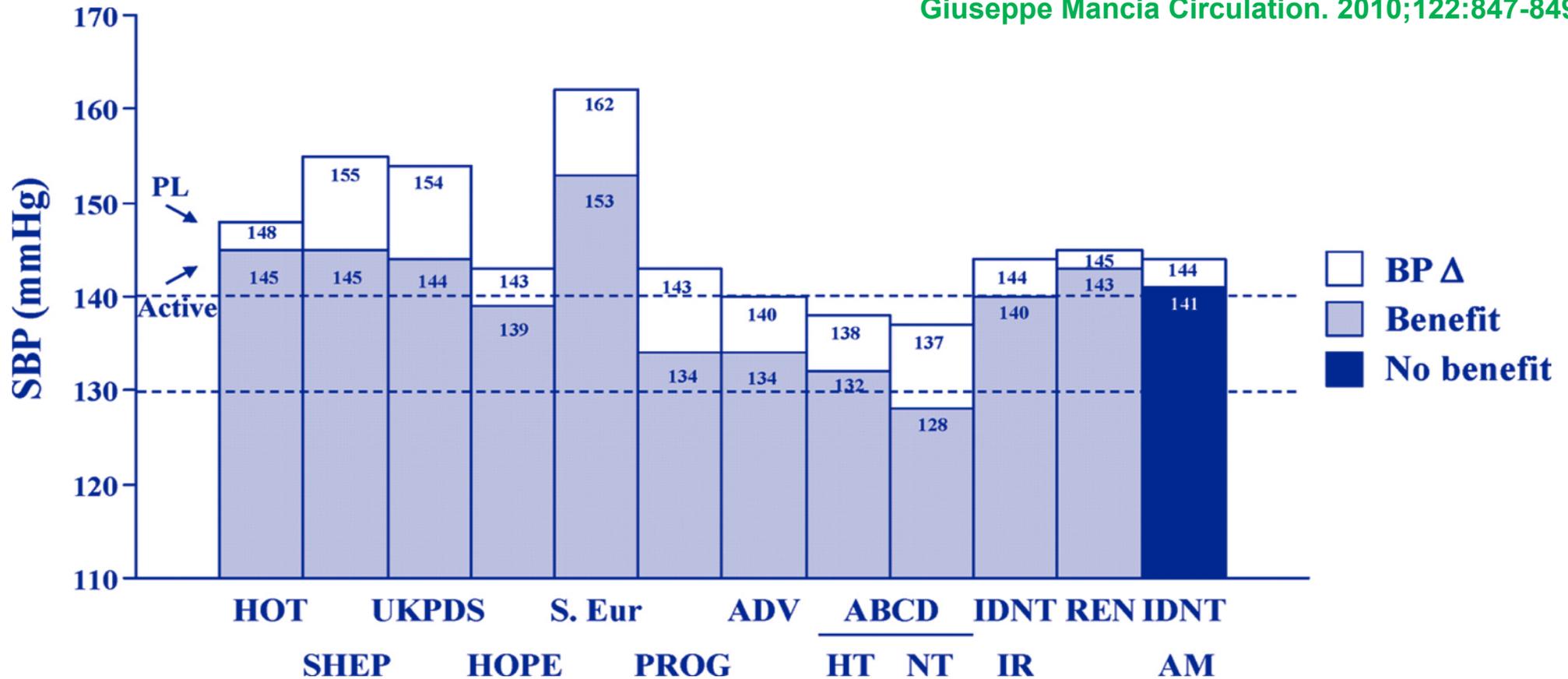


Figure 1. Trials comparing an actively treated group with a placebo or less actively treated group in patients with type 2 diabetes mellitus. Data are shown according to the SBP values achieved with treatment in either group and according to whether the BP difference was associated with cardiovascular (primary or major secondary end-point) or no cardiovascular benefit. S.Eur indicates Systeur Europe Trial; HOT, Hypertension OpTimal study; UKPDS, UK Prospective Diabetes Study; SHEP, Systolic Hypertension in the Elderly Program; HOPE, Heart Outcomes Prevention Evaluation study; IDNT, Irbesartan in Diabetic Nephropathy Trial; PROG, PROGRESS; ADV, Advance; HT, hypertensives; NT, normotensives; IR, irbesartan; Ren, renal; and AM, amlodipine.

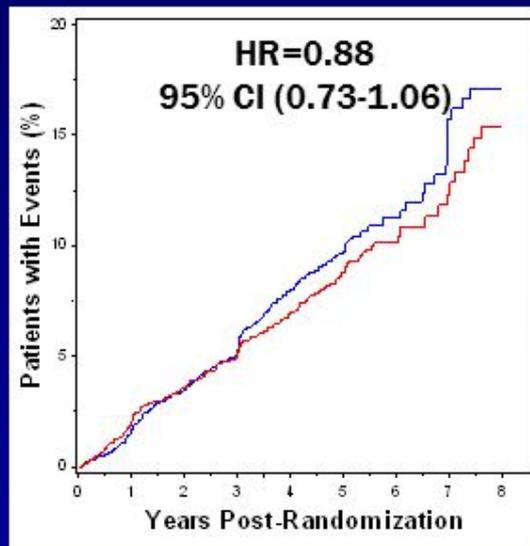
ACCORD BP (Action to Control Cardiovascular Risk in Diabetes — Blood-Pressure-lowering arm)

The NEW ENGLAND
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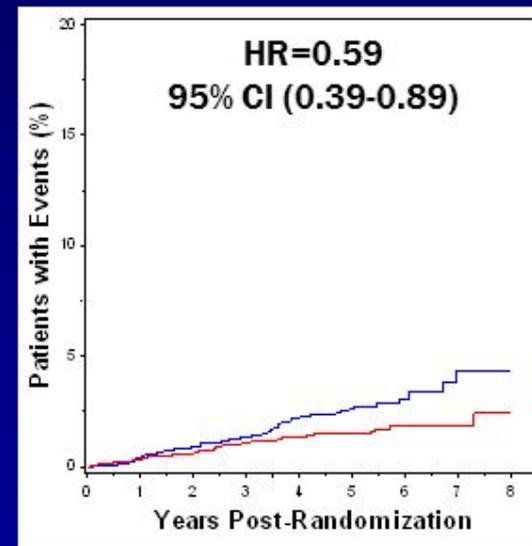
Action to Control Cardiovascular Risk in Diabetes (ACCORD) Blood Pressure Trial

4,733 diabetic patients randomized to intensive BP control (target SBP <120 mm Hg) or standard BP control (target SBP <140 mm Hg) for 4.7 years

Nonfatal MI, nonfatal stroke, or CV death



Total Stroke



Intensive BP control in DM does not reduce a composite of adverse CV events, but does reduce the rate of stroke

BP=Blood pressure, DM=Diabetes mellitus, HR=Hazard ratio, SBP=Systolic blood pressure
ACCORD study group. NEJM 2010

SPRINT

Systolic Blood Pressure Intervention Trial

SPRINT TRIAL

Conclusions :

Among patients at high risk for cardiovascular events but without diabetes, targeting a systolic blood pressure of less than 120 mm Hg, as compared with less than 140 mm Hg, resulted in lower rates of fatal and nonfatal major cardiovascular events and death from any cause, although significantly higher rates of some adverse events were observed in the intensive-treatment group.

The NEW ENGLAND
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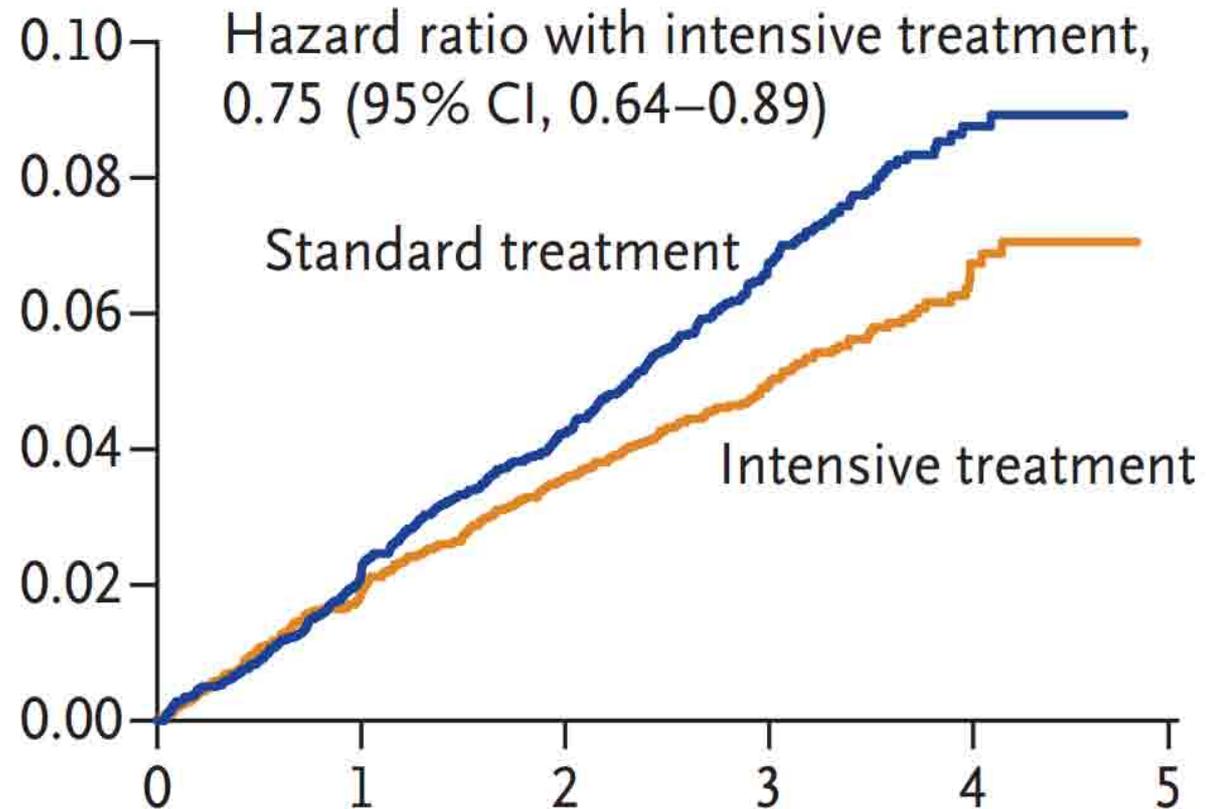
ESTABLISHED IN 1812

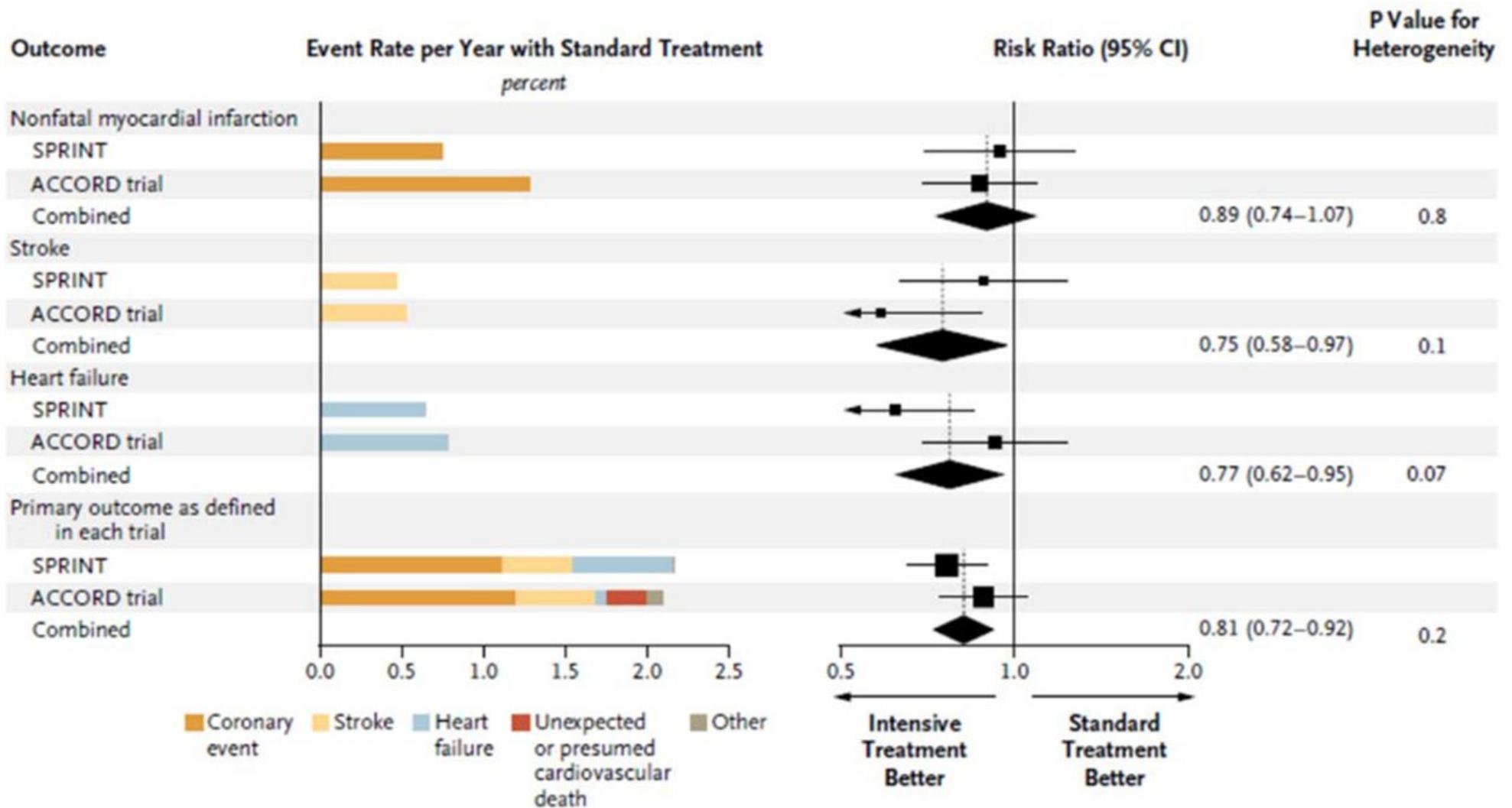
NOVEMBER 26, 2015

VOL. 373 NO. 22

A Randomized Trial of Intensive versus
Standard Blood-Pressure Control

The SPRINT Research Group*

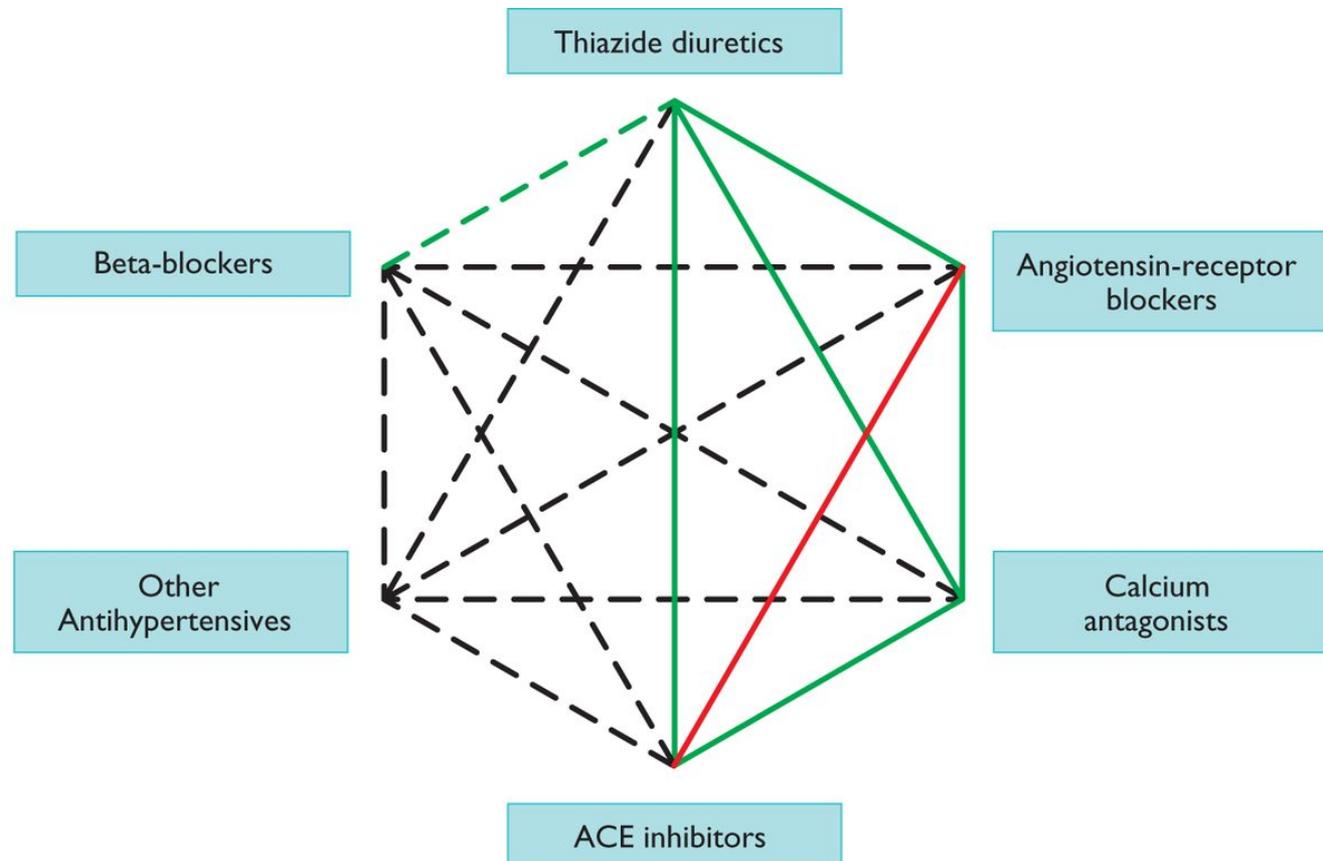




Cardiovascular outcomes in 2 recent blood pressure–lowering trials in patients with and without baseline diabetes mellitus. Outcomes data for blood pressure–lowering trials in a high-risk population without diabetes mellitus: SPRINT (Systolic Blood Pressure Intervention Trial, n=9361) and in a high-risk population with diabetes mellitus: ACCORD (Action to Control Cardiovascular Risk in Diabetes, n=4733). SPRINT was conducted in patients without diabetes and ACCORD in patients with diabetes mellitus. Although reduction in individual outcomes did not reach statistical significance in ACCORD except for stroke, trends toward benefit were similar, and combining ACCORD with SPRINT demonstrated a reduction in the primary outcome and in individual components with intensive treatment.

2013 ESH/ESC Guidelines for the management of arterial hypertension

The Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC)





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Terapia di associazione

Le associazioni tra due farmaci che sono risultate nei trial clinici dotate di maggiore efficacia e tollerabilità sono:

- **Diuretici tiazidici e ACE-inibitori**
- **Diuretici tiazidici e Sartani**
- **Ca-antagonisti e ACE-inibitori**
- **Ca-antagonisti e Sartani**
- **Ca-antagonisti e Diuretici tiazidici**

2013 ESH/ESC Guidelines for the management of arterial hypertension

The Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC)

TARGET PRESSORI NEI PAZIENTI IPERTESI

Raccomandazioni	Classe ^a	Livello ^b
Il target di SBP 140 mmHg:		
a) è raccomandato in pazienti a rischio CV basso-moderato	I	B
b) è raccomandato in pazienti diabetici	I	A
c) dovrebbe essere considerato in pazienti con precedente ictus o TIA	IIa	B
d) dovrebbe essere considerato in pazienti CHD	IIa	B
e) dovrebbe essere considerato in pazienti CKD diabetica o non.	IIa	B
In ipertesi anziani con età <80 anni e con SBP \geq 160 mmHg ci sono evidenze a favore di riduzioni della SBP tra 150 e 140 mmHg.	I	A
Nei pazienti anziani in buone condizioni con età <80 anni si può considerare un target di SBP <140 mmHg, mentre gli obiettivi pressori negli anziani fragili devono essere adattati alla tollerabilità individuale.	IIb	C
Negli ultraottantenni con valori di SBP \geq 160 mmHg è raccomandato di ridurre la BP tra 150 mmHg e 140 mmHg dopo aver verificato che essi siano in buone condizione fisiche e mentali.	I	B
L'obiettivo di DBP <90 mmHg è sempre raccomandato, eccetto nei pazienti diabetici in cui i valori raccomandati sono <85 mmHg. Si dovrebbe tuttavia essere certi che i valori di DBP tra 80 e 85 mmHg siano ben tollerati e privi di effetti sfavorevoli.	I	A



Tabella 15. Farmaci di scelta in condizioni specifiche

Condizione	Farmaco
OD asintomatico	
LVH	ACE-inibitori, calcioantagonisti, ARB
Aterosclerosi asintomatica	Calcioantagonisti, ACE-inibitori
Microalbuminuria	ACE-inibitori, ARB
Disfunzione renale	ACE-inibitori, ARB
Evento clinico CV	
Pregresso ictus	Tutti i farmaci che riducono efficacemente la BP
Pregresso infarto miocardico	Betabloccanti, ACE-inibitori, ARB
Angina pectoris	Betabloccanti, calcioantagonisti
Scompenso cardiaco	Diuretici, betabloccanti, ACE-inibitori, ARB, antagonisti recettoriali dei mineralcorticoidi
Aneurisma aortico	Betabloccanti
Fibrillazione atriale	ARB, ACE-inibitori e betabloccanti o antagonisti recettoriali dei mineralcorticoidi
Fibrillazione atriale, prevenzione, controllo della frequenza ventricolare	Betabloccanti, calcioantagonisti non diidropiridinici
ESRD/proteinuria	ACE-inibitori, ARB
Arteriopatia periferica	ACE-inibitori, calcioantagonisti
Altro	
ISH (anziano)	Diuretici, calcioantagonisti
Sindrome metabolica	ACE-inibitori, ARB, calcioantagonisti
Diabete mellito	ACE-inibitori, ARB
Gravidanza	Metildopa, betabloccanti, calcioantagonisti
Neri	Diuretici, calcioantagonisti

ACE, enzima di conversione dell'angiotensina; ARB, antagonista recettoriale dell'angiotensina II; BP, pressione arteriosa; CV, cardiovascolare; ESRD, insufficienza renale terminale; ISH, ipertensione sistolica isolata; LVH, ipertrofia ventricolare sinistra; OD, danno d'organo.

Tabella 16. Principali associazioni usate nei trial di intervento in un approccio di step-up o come associazioni randomizzate

Trial	Comparatore	Tipo di paziente	Differenza SBP (mmHg)	Outcome
Associazione ACEI+D				
PROGRESS ²⁹⁶	Placebo	Pregresso ictus o TIA	-9	-28% ictus (p<0.001)
ADVANCE ²⁷⁶	Placebo	Diabetici	-5.6	-9% eventi micro/ macrovascolari (p=0.04)
HYVET ²⁸⁷	Placebo	Ipertesi età ≥80 anni	-15	-34% eventi CV (p<0.001)
CAPPP ⁴⁵⁵	BB+D	Ipertesi	+3	+5% eventi CV (p=NS)
Associazione ARB+D				
SCOPE ⁴⁵⁰	D+placebo	Ipertesi età ≥70 anni	-3.2	-28% ictus non fatale (p=0.04)
LIFE ⁴⁵⁷	BB+D	Ipertesi con LVH	-1	-26% ictus (p<0.001)
Associazione CA+D				
FEVER ²⁶⁹	D+placebo	Ipertesi	-4	-27% eventi CV (p<0.001)
ELSA ¹⁸⁶	BB+D	Ipertesi	0	Differenze NS in eventi CV
CONVINCE ⁴⁵⁸	BB+D	Ipertesi con fattori di rischio	0	Differenze NS in eventi CV
VALUE ⁴⁵⁶	ARB+D	Ipertesi ad alto rischio	-2.2	-3% eventi CV (p=NS)
Associazione ACEI+D				
SystEur ⁴⁵¹	Placebo	Anziani con ISH	-10	-31% eventi CV (p<0.001)
SystChina ⁴⁵²	Placebo	Anziani con ISH	-9	-37% eventi CV (p<0.004)
NORDIL ⁴⁶¹	BB+D	Ipertesi	+3	Differenze NS in eventi CV
INVEST ⁴⁵⁹	BB+D	Ipertesi con CHD	0	Differenze NS in eventi CV
ASCOT ⁴²⁰	BB+D	Ipertesi con fattori di rischio	-3	-16% eventi CV (p<0.001)
ACCOMPLISH ⁴¹⁴	ACEI+D	Ipertesi con fattori di rischio	-1	-21% eventi CV (p<0.001)

STRATEGIE DI TRATTAMENTO IN PAZIENTI DIABETICI



Raccomandazioni	Classe ^a	Livello ^b
L'inizio della terapia antipertensiva nei pazienti diabetici con SBP ≥ 160 mmHg è obbligatorio, mentre è fortemente raccomandato iniziare la terapia quando la SBP è ≥ 140 mmHg.	I	A
Il target di SBP < 140 mmHg è raccomandato in pazienti diabetici.	I	A
Il target di DBP < 85 mmHg è raccomandato in pazienti diabetici.	I	A
Tutte le classi di antipertensivi sono raccomandati e possono essere usati nei pazienti diabetici. I bloccanti del RAS possono essere preferiti specialmente in presenza di proteinuria o microalbuminuria.	I	A

REVIEW

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Blood pressure control in type 2 diabetic patients

Alon Grossman^{1,3} and Ehud Grossman^{2,3*}

Abstract

Diabetes mellitus (DM) and essential hypertension are common conditions that are frequently present together. Both are considered risk factors for cardiovascular disease and microvascular complications and therefore treatment of both conditions is essential. Many papers were published on blood pressure (BP) targets in diabetic patients, including several works published in the last 2 years. As a result, guidelines differ in their recommendations on BP targets in diabetic patients. The method by which to control hypertension, whether pharmacological or non-pharmacological, is also a matter of debate and has been extensively studied in the literature. In recent years, new medications were introduced for the treatment of DM, some of which also affect BP and the clinician treating hypertensive and diabetic patients should be familiar with these medications and their effect on BP. In this manuscript, we discuss the evidence supporting different BP targets in diabetics and review the various guidelines on this topic. In addition, we discuss the various options available for the treatment of hypertension in diabetics and the recommendations for a specific treatment over the other. Finally we briefly discuss the new diabetic drug classes and their influence on BP.

Keywords: Hypertension, Blood pressure, Diabetes, Review

Table 1 Meta-analyses of anti-hypertensive treatment in diabetic patients

Topic	Year	Journal	Number of studies included	Number of patients included	Number of diabetics	Mean follow-up (years)	Main conclusions
Effect of antihypertensive treatment at different BP levels in patients with diabetes mellitus [47]	2016	British Medical Journal	49	73,738	Only diabetic, most type 2	3.7	<ul style="list-style-type: none"> ▼ If BP was greater than 150 mmHg, treatment reduced all-cause mortality, CV mortality, myocardial infarction, stroke and end stage renal disease. ▼ If baseline systolic BP was less than 140 mmHg, further treatment increased the risk of CV mortality with a tendency towards an increased risk of all-cause mortality
BP lowering for prevention of CV disease and death [49]	2016	The Lancet	123	613,815	NA	NA	<ul style="list-style-type: none"> ▼ Every 10 mmHg reduction in systolic BP significantly reduced the risk of major CV disease events, coronary heart disease, stroke and heart failure which, in the populations studied, led to a significant 13% reduction in all-cause mortality. The effect on renal failure was not significant. Proportional risk reductions (per 10 mmHg lower systolic BP) were noted in trials with higher mean baseline systolic BP and trials with lower mean baseline systolic BP. There was no clear evidence that proportional risk reductions in major CV disease differed by baseline disease history, except for diabetes and chronic kidney disease, for which smaller, but significant, risk reductions were detected

47. Brunstrom M, Carlberg B. Effect of antihypertensive treatment at different blood pressure levels in patients with diabetes mellitus: systematic review and meta-analyses. *BMJ*. 2016;352:i717.

49. Ettehad D, Emdin CA, Kiran A, Anderson SG, Callender T, Emberson J, Chalmers J, Rodgers A, Rahimi K. Blood pressure lowering for prevention of cardiovascular disease and death: a systematic review and meta-analysis. *Lancet*. 2016;387(10022):957–67.

Grossman and Grossman *Cardiovasc Diabetol* (2017) 16:3
DOI 10.1186/s12933-016-0485-3

Cardiovascular Diabetology

REVIEW **Open Access**

Blood pressure control in type 2 diabetic patients



Table 2 BP goals in diabetics according to major guidelines

Guidelines	NICE [54]	ESH/ESC [3, 4]	ASH/ISH [2]	JNC 8 [1]	ADA [6]	CHEP [7]	IDF [5]
Year published	2011	2013	2014	2014	2016	2016	2012
Blood pressure (mmHg)	Not addressed	<140/85	<140/90	<140/90	<140/90	<130/80	<130/80
Special considerations	Begin treatment if BP > 140/90 mmHg				Systolic BP < 130 mmHg and diastolic BP < 80 may be appropriate for certain individuals with diabetes, such as younger patients, those with albuminuria, and/or those with hypertension and one or more additional atherosclerotic CV disease risk factors, if they can be achieved without undue treatment burden.		<140/90 mmHg in patients 70-80 years old <150/90 mmHg in patients over 80 years old
Recommended initial treatment	ACE inhibitor plus either a diuretic or a CCB	All classes of antihypertensive agents are recommended. RAAS blockers may be preferred, especially in the presence of proteinuria or microalbuminuria	ARB or ACE inhibitor. In black patients, it is acceptable to start with a CCB or a thiazide.	Thiazide-type diuretic, CCB, ACE inhibitor or ARB	ACE inhibitor, ARB	ACE inhibitor, ARB in patients with CV or kidney disease, including microalbuminuria, or with CV risk factors	In patients without albuminuria, Thiazide-type diuretic, CCB, ACE inhibitor or ARB

NICE, National Institute for Health and Clinical Excellence; ESH/ESC, European Society of Hypertension/European Society of Cardiology; JNC, Joint National Committee; ASH+, American Society of Hypertension; ISH, International Society of Hypertension; ADA, American Diabetes Association; CHP, Canadian Hypertension Education Program; BP, blood pressure; ACE, angiotensin converting enzyme; CCB, calcium channel blocker; RAAS, renin angiotensin system; ARB, angiotensin receptor blocker; BB, beta blocker



2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults

Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

Paul A. James, MD; Suzanne Oparil, MD; Barry L. Carter, PharmD; William C. Cushman, MD; Cheryl Dennison-Himmelfarb, RN, ANP, PhD; Joel Handler, MD; Daniel T. Lackland, DrPH; Michael L. LeFevre, MD, MSPH; Thomas D. MacKenzie, MD, MSPH; Olugbenga Ogedegbe, MD, MPH, MS; Sidney C. Smith Jr, MD; Laura P. Svetkey, MD, MHS; Sandra J. Taler, MD; Raymond R. Townsend, MD; Jackson T. Wright Jr, MD, PhD; Andrew S. Narva, MD; Eduardo Ortiz, MD, MPH

JAMA. doi:10.1001/jama.2013.284427
Published online December 18, 2013.

Figure. 2014 Hypertension Guideline Management Algorithm

JAMA. doi:10.1001/jama.2013.284427
Published online December 18, 2013.

2014 (JNC 8)

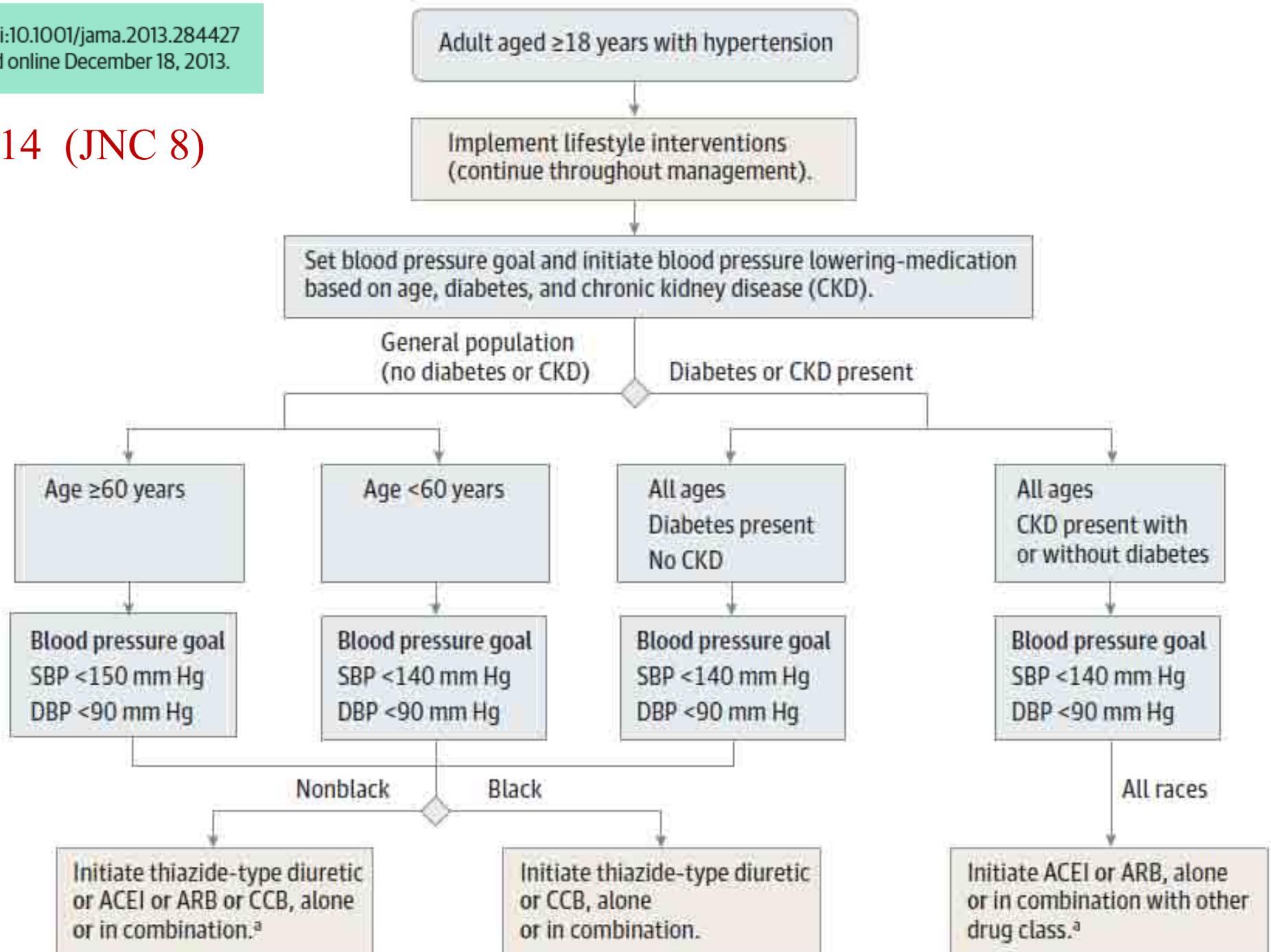


Tabella 17. Approcci utili per aumentare l'aderenza del paziente alle strategie terapeutiche

Paziente

Informazioni associate a strategie motivazionali (vedi paragrafo 5.1.6 sulla cessazione del fumo)

Gestione di gruppo

Automisurazione della BP

Autogestione con semplici sistemi di guida dei pazienti

Interventi complessi^a

Trattamento farmacologico

Semplificazione del trattamento

Segnalazione di promemoria al paziente

Sistema sanitario

Intensificare le cure (monitoraggio, follow-up telefonico, promemoria, visite domiciliari, telemonitoraggio della BP domiciliare, supporto sociale, consulenza computerizzata)

Interventi che coinvolgono direttamente i farmacisti

Strategie di rimborso per migliorare il coinvolgimento dei medici di medicina generale nella valutazione e nel trattamento dell'ipertensione

THM

L'inizio della terapia antipertensiva nei pazienti diabetici con SBP ≥ 160 mmHg è obbligatorio, mentre è fortemente raccomandato iniziare la terapia quando la SBP è ≥ 140 mmHg.

Il target di SBP < 140 mmHg è raccomandato in pazienti diabetici.

Il target di DBP < 85 mmHg è raccomandato in pazienti diabetici.

Tutte le classi di antipertensivi sono raccomandati e possono essere usati nei pazienti diabetici. I bloccanti del RAS possono essere preferiti specialmente in presenza di proteinuria o microalbuminuria.

THM

Diuretici (tiazidici, clortalidone e indapamide), betabloccanti, calcioantagonisti, ACE-inibitori, ARB sono tutti impiegabili e raccomandati per l'inizio e il mantenimento della terapia antipertensiva sia in monoterapia che in associazione.

Alcuni farmaci devono essere considerati di prima scelta in specifiche condizioni in quanto utilizzati in trial che hanno valutato quelle specifiche condizioni o perché maggiormente efficaci in determinati tipi di OD.

L'inizio della terapia antipertensiva con un'associazione di due farmaci può essere considerato in pazienti con valori di BP marcatamente elevati o ad alto rischio CV.

L'associazione di due antagonisti del RAS non è raccomandata e dovrebbe essere sconsigliata.

Si devono considerare anche le altre associazioni che presentano conferma di efficacia antipertensiva. Sono da preferire le associazioni impiegate nei trial clinici.

Sono da raccomandare le associazioni di due farmaci antipertensivi a dose fissa in una singola compressa in quanto riducono il numero di compresse utilizzate migliorando la compliance terapeutica.