Hypertenze a sekundární prevence CMP

Renata Cífková

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Praha

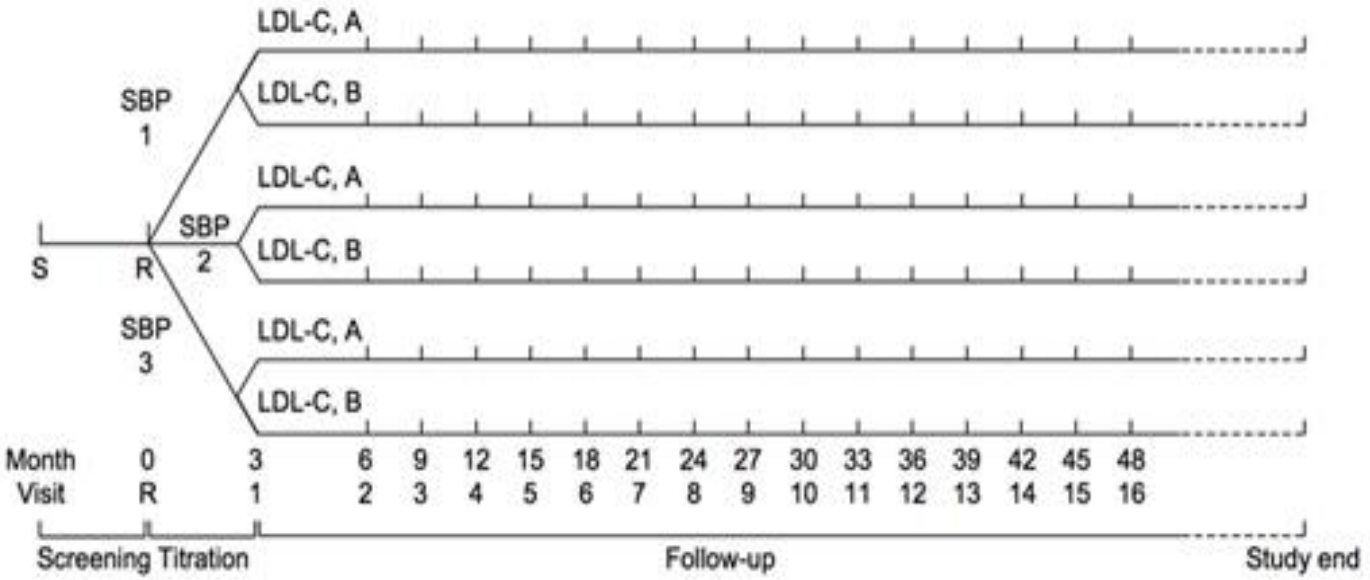
XXXIII. VÝROČNÍ SJEZD ČESKÉ KARDIOLOGICKÉ SPOLEČNOSTI

25% of all strokes are recurrent strokes

Risk of recurrence in the first year	**16%**
in subsequent years	**4%**

Stroke 2014; 45:315 – 353
Stroke 1999; 30:338 – 349

ESH-CHL-SHOT Flow Chart



BP	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
ABP	x								x				x				x				x	x
LDL-C	x		x	x	x		x		x		x		x		x		x		x		x	x
Blood	x								x				x				x				x	x
Microalbuminuria	x								x				x				x				x	x
ECG	x								x						x						x	x
Echocard, PWV	[x]								[x]													[x]
Carotid US	x								[x]													[x]
Disability	x								x				x		x							x
Cognition	x								x												x	x
Depression	x								x													x
Brain MR / CT	x																					x

ESH-CHL-SHOT

Goal SBP

- < 145-135 mmHg
- < 135-125 mmHg
- < 125 mmHg

Goal LDL-cholesterol

- 2.8-1.8 mmol/l
- < 1.8 mmol/l

2023 ESH Guidelines for the management of arterial hypertension

The Task Force for the management of arterial hypertension of the European Society of Hypertension

Endorsed by the European Renal Association (ERA) and the International Society of Hypertension (ISH)

Authors/Task Force Members:, Giuseppe Mancia(Chairperson)[a,*], Reinhold Kreutz(Co-Chair)[b,*], Mattias Brunström[c], Michel Burnier[d], Guido Grassi[e], Andrzej Januszewicz[f], Maria Lorenza Muiesan[g], Konstantinos Tsioufis[h], Enrico Agabiti-Rosei[i], Engi Abd Elhady Algharably[b], Michel Azizi[j,k], Athanase Benetos[l], Claudio Borghi[m], Jana Brguljan Hitij[n], Renata Cifkova[o,p], Antonio Coca[q], Veronique Cornelissen[r], Kennedy Cruickshank[s], Pedro G. Cunha[t,u], A.H. Jan Danser[v], Rosa Maria de Pinho[w], Christian Delles[x], Anna F. Dominiczak[y], Maria Dorobantu[z], Michalis Doumas[aa], María S. Fernández-Alfonso[bb,cc], Jean-Michel Halimi[dd,ee,ff], Zoltán Járai[gg], Bojan Jelakovic[hh], Jens Jordan[ii,jj], Tatiana Kuznetsova[kk], Stephane Laurent[ll], Dragan Lovic[mm], Empar Lurbe[nn,oo,pp], Felix Mahfoud[qq,rr], Athanasios Manolis[ss], Marius Miglinas[tt,uu], Krzystof Narkiewicz[vv], Teemu Niiranen[ww,xx], Paolo Palatini[yy], Gianfranco Parati[zz,aaa], Atul Pathak[bbb], Alexandre Persu[ccc], Jorge Polonia[ddd], Josep Redon[oo,eee,fff], Pantelis Sarafidis[ggg], Roland Schmieder[hhh], Bart Spronck[iii], Stella Stabouli[jjj], George Stergiou[kkk], Stefano Taddei[lll], Costas Thomopoulos[mmm], Maciej Tomaszewski[nnn,ooo], Philippe Van de Borne[ppp], Christoph Wanner[qqq], Thomas Weber[rrr], Bryan Williams[sss], Zhen-Yu Zhang[ttt], and Sverre E. Kjeldsen[uuu]

59 autorů
119 stran
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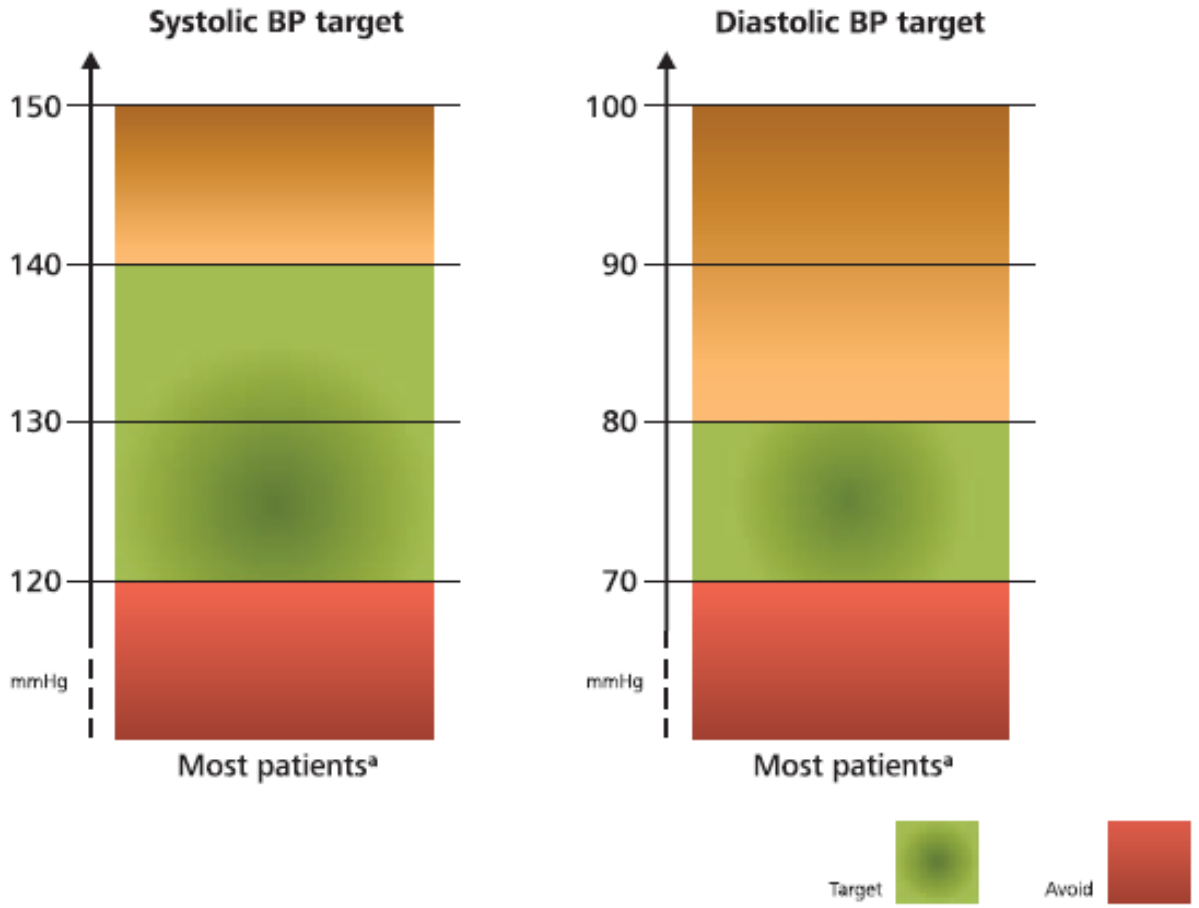
J Hypertens 2023; 41:1874-2071

European Society of Hypertension

Cílové hodnoty TK (Office BP)



Cílové hodnoty TK (Office BP)

Recommendations and statements	CoR	LoE
Patients 18 to 64 years old		
The goal is to lower office BP to <130/80mmHg	I	A
Patients 65 to 79 years old		
The primary goal of treatment is to lower BP to <140/80mmHg	I	A
However, lowering BP to below 130/80mmHg can be considered if treatment is well tolerated.	I	B
Patients 65 to 79 years old with ISH		
The primary goal of treatment is to lower SBP in the 140 to 150 mmHg range.	I	A
However, a reduction of office SBP in the 130 to 139 mmHg range may be considered if well tolerated, albeit cautiously if DBP is already below 70 mmHg.	II	B
Patients ≥80 years old		
Office BP should be lowered to a SBP in the 140 to 150 mmHg range and to a DBP <80mmHg.	I	A
However, reduction of office SBP between 130 to 139 mmHg may be considered if well tolerated, albeit cautiously if DBP is already below 70 mmHg.	II	B

Cílové hodnoty TK (Office BP)

Additional safety recommendations		
In frail patients, the treatment target for office SBP and DBP should be individualised.	I	C
Do not aim to target office SBP below 120 mmHg or DBP below 70 mmHg during drug treatment.	III	C
However, in patients with low office DBP, i.e. below 70 mmHg, SBP should be still lowered, albeit cautiously, if on-treatment SBP is still well above target values	II	C
Reduction of treatment of can be consider in patient aged 80 years or older with a low SBP (< 120 mmHg) or in the presence of severe orthostatic hypotension or a high frailty level	III	C

Management of elevated BP in patients with previous stroke or TIA

Placebo-controlled RCTs of antihypertensive treatment in clinically stable hypertensive patients (BP≥ 140/90mmHg) with a previous stroke or TIA have shown that BP-lowering reduces the risk of recurrent stroke as well as CV events. Thus, **initiation or resumption of BP-lowering therapy several days after stroke**, when the clinical conditions are stabilized, or immediately after TIA, is recommended for untreated or previously treated patients with hypertension **No placebo controlled trial has explored whether in patients with a previous stroke, antihypertensive treatment reduces stroke recurrency and CV events also when BP is in the high-normal range or lower.**

The optimal BP targets to prevent recurrent stroke are also uncertain, but a consistent finding of several trials and meta-analyses has been that **within the 120–140 mmHg SBP range**, the lower the achieved SBP, the lesser the risk of stroke recurrence.

It must be emphasized that these results are mainly applicable to individuals with an average age below70 years, and that, when dealing with the secondary prevention of stroke, **the target BP to aim at should be decided based on the functional status, frailty, cognition and associated conditions of the patient**. The first and main goal should be to reduce BP to<140/80mmHg, and then, whenever possible and under clinical control, achieve BP below 130/80mmHg, if tolerated. **SBP values <120mmHg should be avoided.**

Management of elevated BP in patients with previous stroke or TIA

Prevention of stroke has been observed in large RCTs using different drug regimens. However, RCTs comparing different treatment regimens and meta-analyses suggest that **BBs are less effective for stroke prevention**
than the other major classes of antihypertensive agents, although also showing a sizeable protection against stroke in BP lowering placebo-controlled trials. The factors involved in the lower cerebrovascular protection of BBs are
not clear because there is no evidence that BBs exert a damaging effect on the brain or impair cerebral blood flow
autoregulation. In a large meta-analysis of RCTs, the risk of stroke did not differ significantly between BBs and RAS blockers or diuretics, but it was greater when compared with CCBs [625,1251], raising the possibility of an origin from a slightly greater BP-lowering effect of CCBs to which stroke incidence might be especially sensitive.

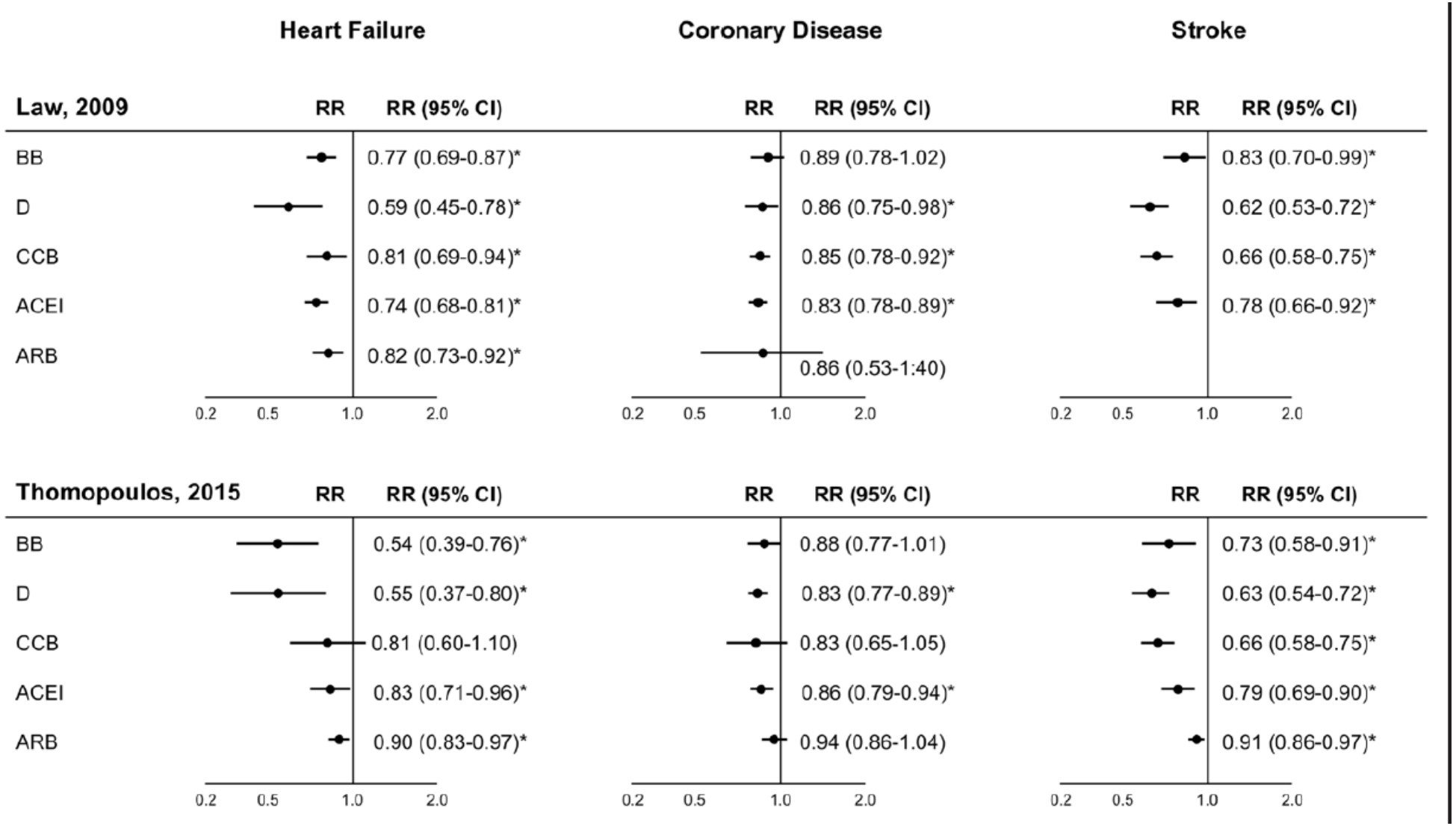
At any rate, mindful of the fact that **the most common recurrent event after stroke is a further stroke** rather than myocardial infarction, antihypertensive treatment for secondary stroke prevention should not consider BBs as the preferred drugs.
Under these circumstances, **BBs can be used in combination treatment, considering their specific indications and
comorbidities**

Menší účinnost BB v prevenci CMP je sporná

- BB v randomizovaných studiích snižují výskyt všech KV komplikací včetně CMP
- nejsou žádné doklady o škodlivém vlivu BB na mozkovou tkáň či mozkovou cirkulaci
- relativně nižší účinnost na snížení CMP pouze ve studiích s atenololem (LIFE, ASCOT)
  - *atenolol* je krátkodobě působící BB
  - ve studiích dosaženy lehce nižší hodnoty TK, zvl. centrálního
- BB jsou heterogenní skupina (podobně jako u SS i u hypertenze nemusí být class efekt)

Hypertension 2022; 79:1153-1166

Snížení rizika srdečního selhání, ICHS a CMP při léčbě betablokátory



Hypertension 2024;81:1021-1030

ESC European Society of Cardiology

European Heart Journal (2024) **00**, 1–107
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ESC GUIDELINES

24 autorů
107 stran
1021 citací

2024 ESC Guidelines for the management of elevated blood pressure and hypertension

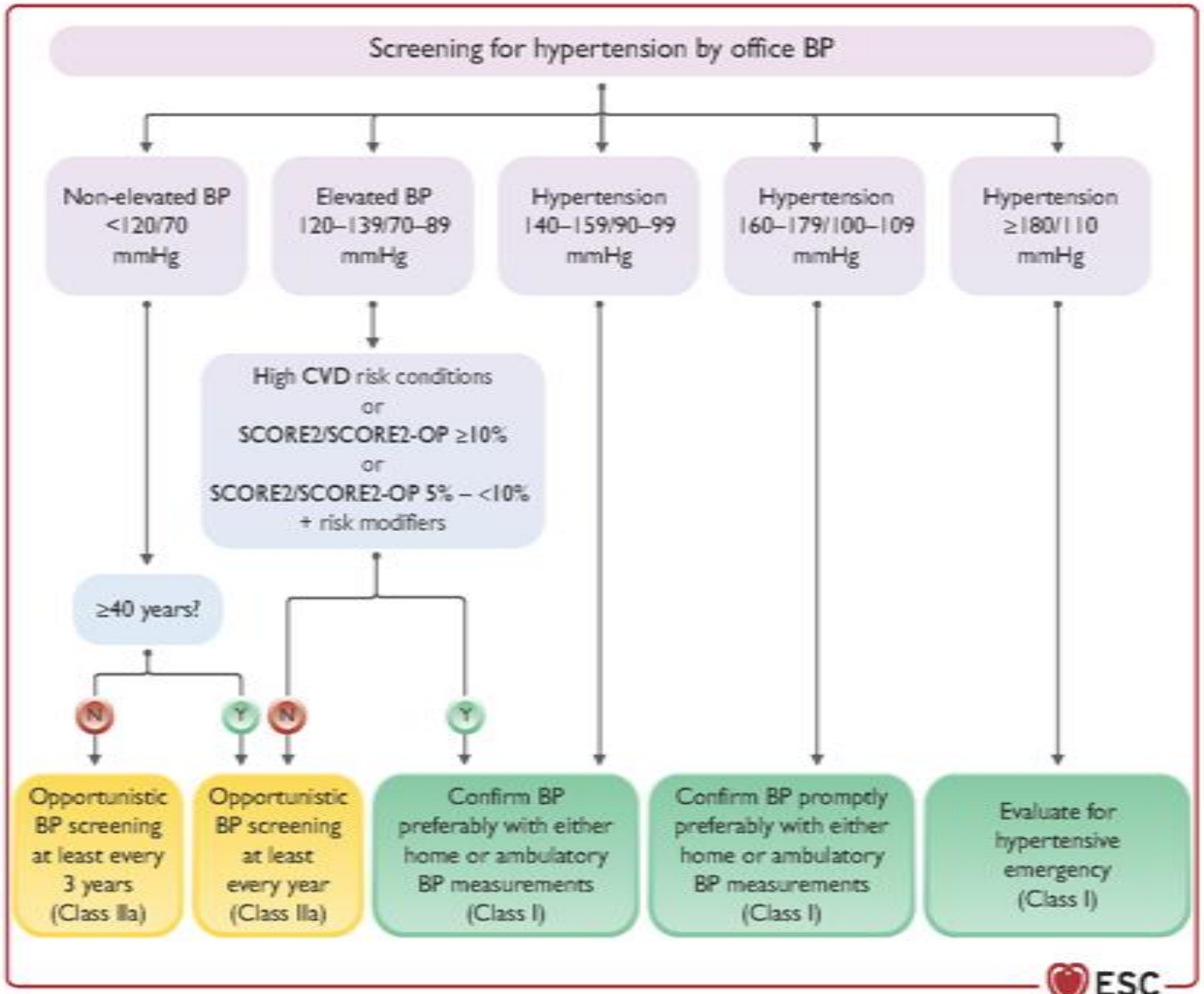
Developed by the task force on the management of elevated blood pressure and hypertension of the European Society of Cardiology (ESC) and *endorsed by the European Society of Endocrinology (ESE) and the European Stroke Organisation (ESO)*

Authors/Task Force Members: John William McEvoy *†, (Chairperson) (Ireland), Cian P. McCarthy ‡, (Task Force Co-ordinator) (United States of America), Rosa Maria Bruno ‡, (Task Force Co-ordinator) (France), Sofie Brouwers (Belgium), Michelle D. Canavan (Ireland), Claudio Ceconi (Italy), Ruxandra Maria Christodorescu (Romania), Stella S. Daskalopoulou (Canada), Charles J. Ferro [1] (United Kingdom), Eva Gerdts (Norway), Henner Hanssen (Switzerland), Julie Harris (United Kingdom), Lucas Lauder (Switzerland/Germany), Richard J. McManus (United Kingdom), Gerard J. Molloy (Ireland), Kazem Rahimi (United Kingdom), Vera Regitz-Zagrosek (Germany), Gian Paolo Rossi [2] (Italy), Else Charlotte Sandset [3] (Norway), Bart Scheenaerts (Belgium), Jan A. Staessen (Belgium), Izabella Uchmanowicz (Poland), Maurizio Volterrani (Italy), Rhian M. Touyz *†, (Chairperson) (Canada), and ESC Scientific Document Group

Eur Heart J 2024;45:3912-4018

Figure 10

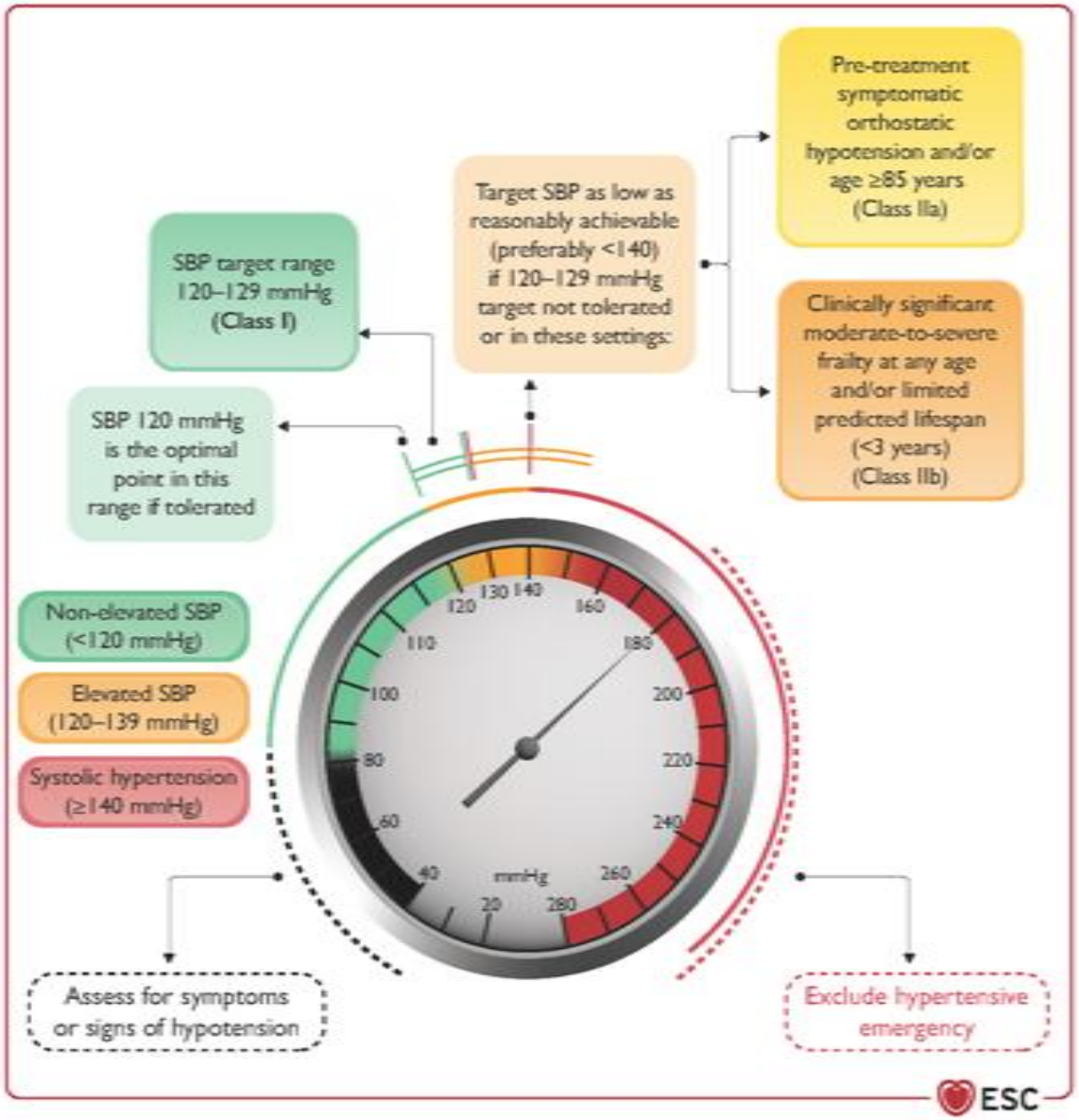
Protocol for confirming hypertension diagnosis



2024 ESC Guidelines for the management of elevated blood pressure and hypertension
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae178)

Figure 20

Systolic blood pressure categories and treatment target range



2024 ESC Guidelines for the management of elevated blood pressure and hypertension
(European Heart Journal; 2024 – doi: 10.1093/eurheartj/ehae178)

Management of hypertension in patients with chronic cerebrovascular disease and cognitive impairment

Recommendations	Class[a]	Level[b]
It is recommended that the BP-lowering drug treatment strategy for preventing recurrent stroke should comprise a RAS blocker plus a CCB or a thiazide-like diuretic.[820,823,825,826]	I	A
In patients with confirmed BP ≥130/80 mmHg with a history of TIA or stroke a systolic BP target of 120–129 mmHg is recommended to reduce CVD outcomes, provided treatment is tolerated.[824,827,828]	I	A

Revisiting Cardiovascular Benefits of Blood Pressure Reduction in Primary and Secondary Prevention: Focus on Targets and Residual Risk—A Systematic Review and Meta-Analysis

Eleni Manta, Costas Thomopoulos, Maria Kariori, Dimitrios Polyzos, Constantinos Mihas, Dimitrios Konstantinidis, Dimitrios Farmakis, Giuseppe Mancia, Konstantinos Tsioufis

METHODS:

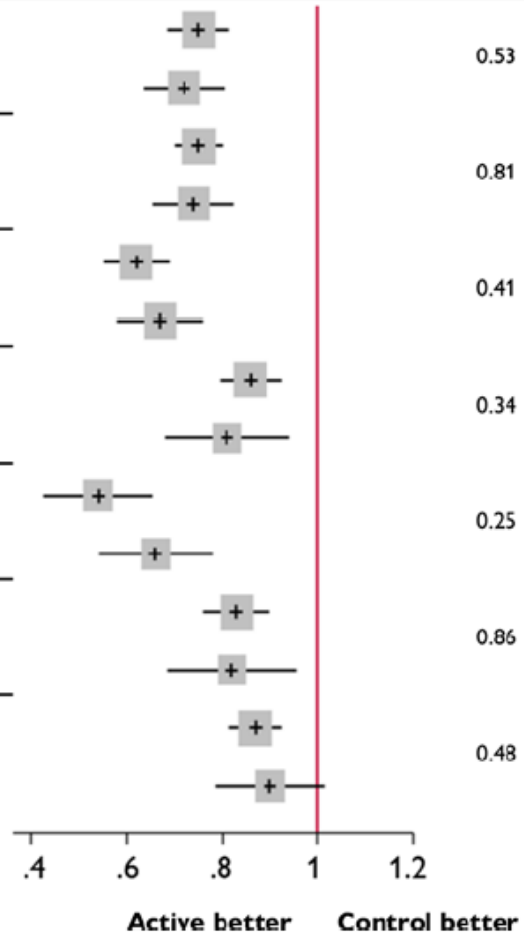
- 115 BP- lowering or comparision trials
- 241 089 patients with or 198 937 without previous CV events

CONCLUSIONS: BP-lowering treatment benefits did not differ by prevention group to a nadir of 125 mm Hg for systolic BP. Although residual risk in secondary prevention is higher than in primary prevention, it gradually decreases at progressively lower systolic BP targets in primary prevention.

Hypertension 2024;81:1076-1086.

RR reduction of CV outcomes and death in patients under BP- lowering treatment

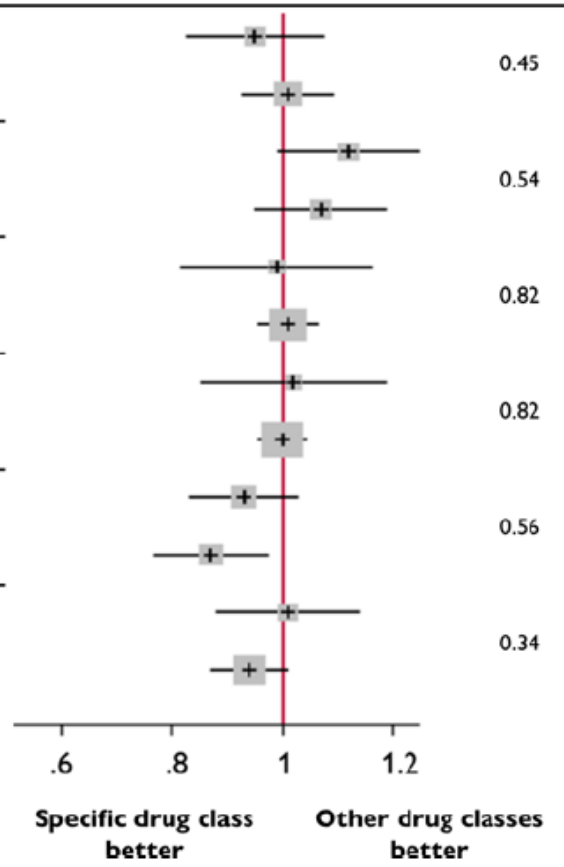
Outcome	Prevention category	Trials, n	Follow up, years	Difference SBP/DBP, mmHg	Events, n/patients		RR (95% CI)	Standardized RR (95% CI)	p-value
					Treated	Controls			
MACE	primary	33	4.2	-8.5 / -4.3	2635 / 58831	3327 / 63271	0.78 (0.72-0.84)	0.75 (0.69-0.82)	0.53
	secondary	30	3.7	-4.8 / -2.5	5985 / 47592	6933 / 47958	0.86 (0.81-0.90)	0.72 (0.63-0.80)	
Stroke + CHD	primary	37	4.0	-9.0 / -4.4	2485 / 57828	3056 / 56547	0.77 (0.73-0.82)	0.75 (0.71-0.81)	0.81
	secondary	32	3.8	-5.0 / -2.5	5424 / 53375	6208 / 52863	0.87 (0.82-0.91)	0.74 (0.65-0.82)	
Stroke	primary	36	4.1	-8.1 / -4.3	1271 / 67406	1848 / 71436	0.68 (0.62-0.75)	0.62 (0.56-0.70)	0.41
	secondary	30	3.5	-5.1 / -2.6	2419 / 48720	2886 / 49031	0.82 (0.77-0.88)	0.67 (0.59-0.77)	
CHD	primary	36	4.0	-9.0 / -4.3	1299 / 55722	1417 / 54034	0.86 (0.80-0.93)	0.86 (0.80-0.93)	0.34
	secondary	32	3.5	-5.0 / -2.5	2171 / 46378	2352 / 45801	0.91 (0.85-0.98)	0.81 (0.70-0.96)	
HF	primary	20	3.7	-9.4 / -4.1	236 / 29747	392 / 28865	0.57 (0.47-0.69)	0.54 (0.44-0.67)	0.25
	secondary	17	3.6	-4.8 / -2.4	1379 / 37118	1652 / 36385	0.83 (0.76-0.90)	0.66 (0.54-0.79)	
CV Death	primary	30	4.1	-8.8 / -4.3	1060 / 50915	1174 / 49524	0.84 (0.77-0.91)	0.83 (0.76-0.90)	0.86
	secondary	32	3.4	-5.1 / -2.5	2150 / 49368	2326 / 48745	0.91 (0.84-0.98)	0.82 (0.69-0.96)	
All-cause Death	primary	40	4.1	-8.8 / -4.5	2508 / 63176	2696 / 61628	0.88 (0.83-0.93)	0.87 (0.82-0.93)	0.48
	secondary	33	3.5	-5.3 / -2.7	4095 / 50976	4236 / 50323	0.95 (0.89-1.01)	0.90 (0.79-1.02)	



Hypertension 2024;81:1076-1086.

RR reduction of CV outcomes and death in patients under BP- lowering trials with 100% baseline hypertension prevalence

Drug Class	Prevention category	Trials, n	Follow up, years	Difference SBP/DBP, mmHg	Events, n/patients		RR (95% CI)	p-value
					Drug	Controls		
D vs all others	primary	11	4.1	-0.9 / -0.1	976 / 19492	1030 / 19644	0.95 (0.83-1.08)	0.45
	secondary	7	4.2	-0.5 / 0.5	2403 / 11557	1536 / 8116	1.01 (0.93-1.10)	
BB vs all others	primary	7	4.6	1.4 / 0.0	1006 / 14636	887 / 14457	1.12 (1.00-1.26)	0.54
	secondary	4	2.9	-0.2 / -0.2	1126 / 12599	1105 / 12669	1.07 (0.95-1.19)	
CCB vs all others	primary	7	3.9	1.4 / -0.1	641 / 11428	641 / 11496	0.99 (0.83-1.18)	0.82
	secondary	11	3.4	-0.5 / -0.5	3143 / 26302	3600 / 28199	1.01 (0.95-1.06)	
ACEi vs all others	primary	4	5.4	2.0 / 0.7	771 / 9144	721 / 9118	1.02 (0.87-1.21)	0.82
	secondary	6	4.6	1.0 / 0.5	2735 / 14412	3123 / 15932	1.00 (0.96-1.05)	
ARB vs all others	primary	5	4.2	-0.1 / 0.2	427 / 6353	472 / 6323	0.93 (0.79-1.09)	0.56
	secondary	11	4.4	0.2 / 0.1	2671 / 16627	2793 / 16604	0.87 (0.77-0.98)	
RASb vs all others	primary	9	4.9	1.2 / 0.5	1198 / 15497	1193 / 15441	1.01 (0.89-1.15)	0.34
	secondary	17	4.5	0.6 / 0.3	5406 / 31039	5916 / 32536	0.94 (0.87-1.01)	

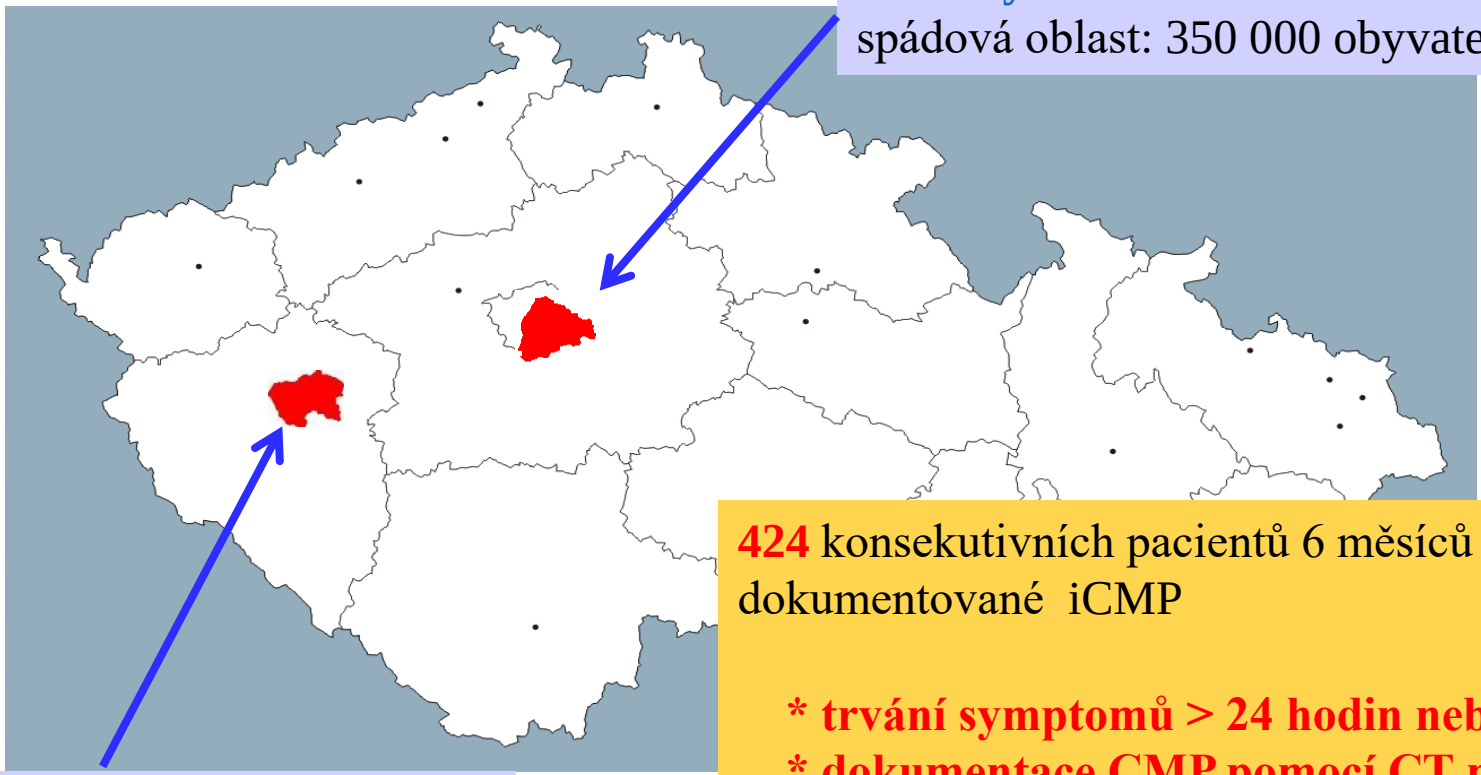


Hypertension 2024;81:1076-1086

Nemocní s první ischemickou CMP

736 pacientů přijatých do 2 regionálních iktových center (z celk. počtu 24) v období 2009-2012

Thomayerova nemocnice v Praze
spádová oblast: 350 000 obyvatel



424 konsekutivních pacientů 6 měsíců – 3 roky po 1. dokumentované iCMP

*** trvání symptomů > 24 hodin nebo TL**
*** dokumentace CMP pomocí CT nebo MR**
*** věk 18-81 let**

FN v Plzni
spádová oblast: 180 000 obyvatel

Stroke survivors with controlled and uncontrolled hypertension

	BP <140/90 mmHg (controlled)	BP ≥140/90 mmHg (uncontrolled)	*P*
Number	166	222	
Age (years	68.1 ± 8.9	68.1 ± 9.2	Not significant
Men/women, *n* (%)	95/71 (57.2/42.8)	146/76 (65.8/34.2)	Not significant (0.086)
Concomitant cardiovascular disease, *n* (%)	32 (19.3)	48 (21.6)	Not significant
BP at discharge (mmHg			
SBP (mmHg)	142.8 ± 23.2	144.0 ± 21.9	Not significant
DBP (mmHg)	82.1 ± 13.1	82.4 ± 13.2	Not significant
Mean BP (mmHg)	102.3 ± 15.3	102.9 ± 14.8	Not significant
BMI (kg/m^2)	29.4 ± 5.25	29.9 ± 4.80	Not significant
BMI ≥30 kg/m^2 (%)	63 (38.0)	105 (47.3)	Not significant (0.070)
Current smoking, *n* (%)	56 (33.7)	76 (34.2)	Not significant
Diabetes, *n* (%)	39 (25.0)	53 (26.9)	Not significant
Modified Rankin Score	1 (0–2)	1 (0–2)	Not significant
MoCA	23 ± 5.6	24 ± 4.6	Not significant

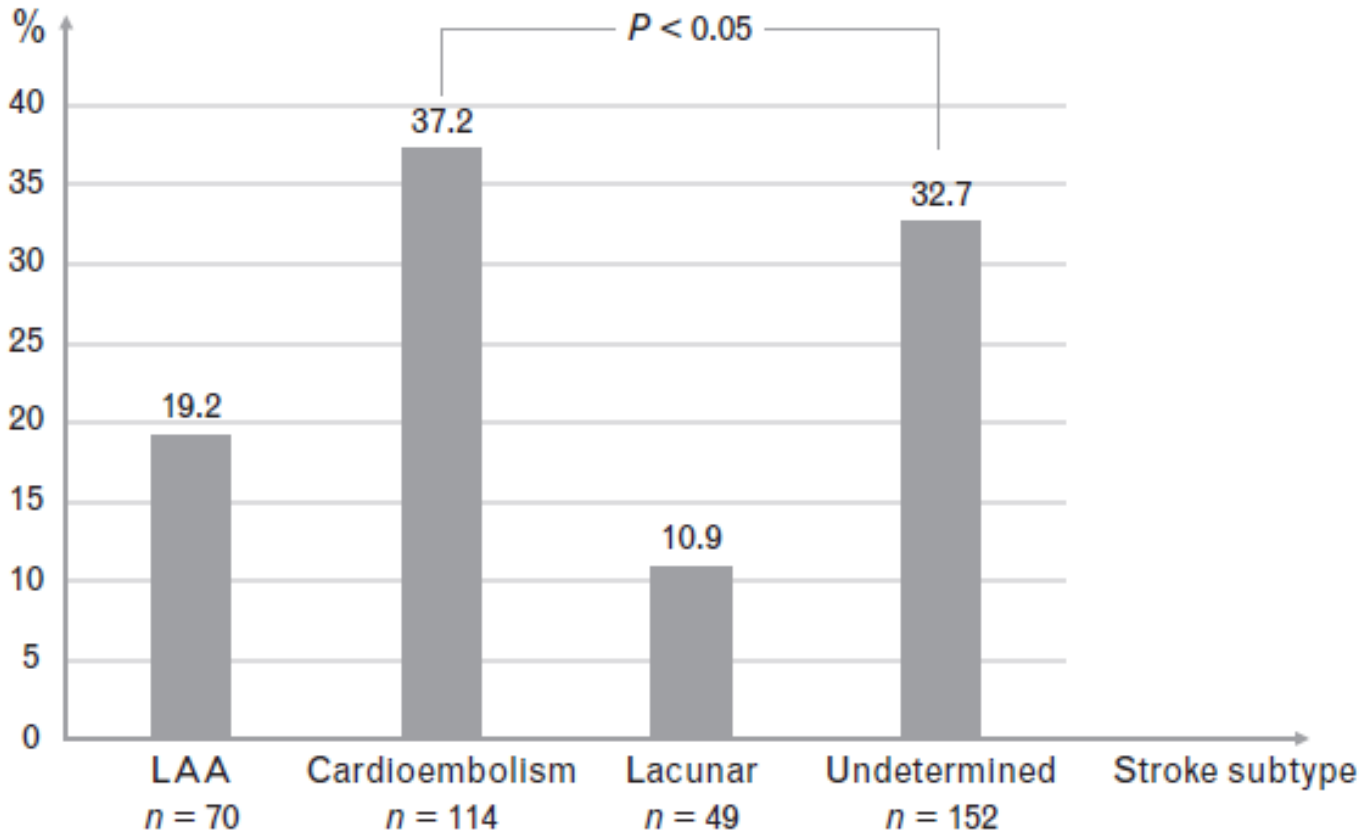
J Hypertens 2015;33:2107-2114

Stroke survivors with controlled and uncontrolled hypertension

	BP <140/90 mmHg (controlled)	BP ≥140/90 mmHg (uncontrolled)	*P*
Antihypertensive drugs			
Total number of antihypertensive drugs	2.46 ± 1.25	1.95 ± 1.42	0.001
Use of beta-blockers, *n* (%)	76 (45.8)	86 (38.7)	Not significant
Use of ACE inhibitors, *n* (%)	121 (72.9)	113 (50.9)	0.001
Use of ARBs, *n* (%)	27 (16.3)	48 (21.6)	Not significant
Use of calcium antagonists, *n* (%)	76 (45.8)	81 (36.5)	Not significant (0.065)
Use of diuretics, *n* (%)	65 (39.2)	69 (31.1)	Not significant (0.098)
Use of other antihypertensive drugs, *n* (%)	43 (25.9)	36 (16.2)	0.019

J Hypertens 2015;33:2107-2114

Control of hypertension by stroke subtype



J Hypertens 2015;33:2107-2114

Editorial Comment

Blood pressure control after a stroke: a continuing challenge!

John Chalmers[a,b]

See original paper on page 2107

The burden of stroke and cardiovascular disease (CVD) continues to rise across the world [1–3]. The Global Burden of Disease study reports that by 2010, high blood pressure had become the leading risk factor globally for both deaths and disability (disability-

stroke survivors and 72% of population controls. Although use of blood pressure-lowering drugs was common in both the groups, 80% in poststroke survivors and 57% in the controls, effective blood pressure control, defined as blood pressure 140/90 mmHg or less, was found only in 43% of

J Hypertens 2015;33:2022-2024

Závěry

- Většina doporučení se shoduje na cílové hodnotě STK < 130 mm Hg; hodnoty STK < 120 mm Hg nejsou vhodné.

- V klinických studiích byly použita různá antihypertenziva, nejčastěji jsou doporučovány blokátory RAS + BKK nebo thiazidům podobná diuretika (indapamid).

- Definice a klasifikace hypertenze a ostatních kategorií TK
- Zahájení medikamentózní léčby
- Cílové hodnoty TK
- Algoritmus léčby hypertenze
- Screening primárního hyperaldosteronismu

Závěry

- Existence 2 rozdílných doporučení pro léčbu hypertenze a „zvýšeného TK“ je zavádějící pro lékaře i pacienty.
- Do budoucna je třeba vyvinout maximální úsilí, aby se situace neopakovala.
- Cíle ESC guidelines jsou velmi ambiciózní, v denní praxi obtížně realizovatelné; NÚ léčby jsou brány v potaz jen okrajově.
- Snížení hodnoty TK napříč celou populací může přispět ke snížení zátěže populace spojené s vyššími hodnotami TK.

Závěry

- Definice a klasifikace hypertenze se nemění.
- U všech hypertoniků je doporučena úprava životosprávy a antihypertenzní léčba.
- Pouze u pacientů s hypertenzí I. st. a velmi mírným zvýšením TK (< 150/95 mmHg), bez přítomnosti orgánového poškození a s nízkým KV rizikem může být zahájena pouze nefarmakologická léčba.
- Optimální kontroly TK má být dosaženo do 3 měsíců..