TREATMENT ALGORITHM OF A HYPERTENSION SPECIALIST AFTER MILAN MEETING IN 2007

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Objective

The current ESH-ESC guidelines (GL) have tried not to constrain judgment on the management of individual patients. On the other hand, a proposal of a short, probably successful specialist's algorithm could be useful for primary care.

Methods and Results

The proposed treatment algorithm has been formed by the current guidelines and other additional criteria, such as heart rate (HR) reflecting level of sympathetic activity, drug tolerability and mechanism of its action - if causing or not a stimulation of pressor factors associated with adverse trophic and metabolic effects as a counter-regulation on BP decrease; drug combinations - efficacy, counteracting each other's side-effects or both.

Thus, ACEI seemed to be the best drug class for monotherapy in uncomplicated hypertension already for many years. Due to their protective effects ACEI are indicated for monotherapy also at older age, in spite of their possible lower antihypertensive effect (unlike the recent BHS GL), with earlier combination with a calcium channel blocker (CCB) and/or a diuretic to extend their good efficacy spectrum, if necessary. Thus, the indicated ACEI is not given with delay when TOD or ACC is already developed. In patients with a relatively higher HR (ca 75-85 bpm) a non-dihydropyridine CCB is the first choice, preferably in a combination with an ACEI. Hypertension with sinus tachycardia (> 85 bpm approximately) could be treated with a beta-blocker given in combinations or with ivabradine + ACEI in future.

Conclusions

The transferable know-how of hypertension specialists could speed up the finding of optimal therapy (drug dosage and combinations, etc.) in primary care.

Hypertension with TOD or/and ACC or/and DM or MS

Drug selection according to demands on secondary prevention completed by successive adding the drugs recommended for uncomplicated hypertension. Indapamide is the preferable diuretic and BB are to be avoided in DM and metabolic syndrome (MS). See the colour electronic table below.

UNCOMPLICATED HYPERTENSION IN ASYMPTOMATIC INDIVIDUALS

Heart rate < 75 bpm

ACEI - small to medium doses
(in case of not tolerated ACEI change for ARB)
Checking drug selection in the electronic table for contraindications and conditions favouring its use.

checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

+

CCB of dihydropyridine type usually

checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

+

diuretic (D)

indapamide (preferably 1.25 mg)
or thiazide-type diuretic
(12.5 mg of hydrochlorothiazide at maximum)

Checking BP before morning medication,
if necessary add evening and/or even bedtime
(not after stroke) drug dosing

preferably referal to hypertension

alpha-blocker (AB) or/and **BB** or/and **ARB** or/and **central agent (CA)**

Alternative treatment, if ARB is not tolerated:

CCB
+ diuretic or BB or AB or CA
Triple therapy:
CCB + D + CA
CCB + BB + AB
CCB + D (preferably indapamide) + BB

Alternative treatment, if ARB and CCB are not tolerated:

BB exceptionally as monotherapy, preferably **BB + AB**
(BB in minimal effective doses)

Heart rate 75 - 85 bpm

Non-dihydropyridine CCB
(not suitable with existing constipation)

Preferably with ACEI or exceptionally BB

checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

+

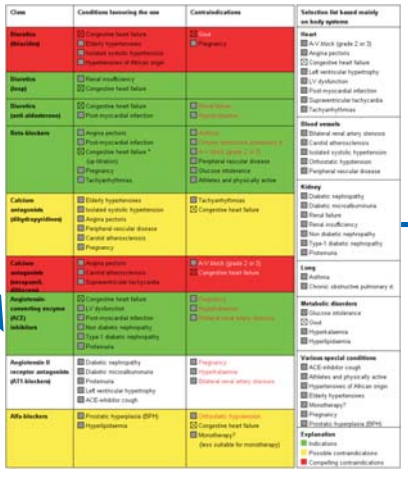
ACEI (ARB)

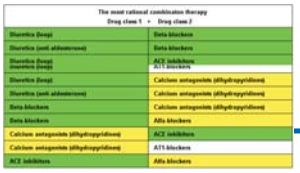
checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

+

diuretic

Checking BP before morning medications,
if necessary add evening and/or even
bedtime (not after stroke) drug dosing





Heart rate > 85 bpm

BB or ivabradine + ACEI?
exceptionally as monotherapy, preferably
BB + ACEI (ARB) or BB + AB
(BB in minimal effective doses)

checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

+

ACEI (ARB) or AB

checking BP (office, better office + SBPM)
before morning medication,
if necessary change dosing for twice a day

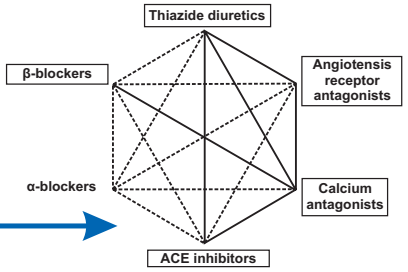
+

ACEI (ARB) and/or AB
(+ DHP CCB or D)

Checking BP before morning medication,
if necessary add evening and/or even
bedtime (not after stroke) drug dosing

Table 7 Compelling and possible contraindications to use of antihypertensive drugs

	Compelling	Possible
Thiazide diuretics	Gout	Metabolic syndrome Glucose intolerance Pregnancy
Beta-blockers	Asthma A-V block (grade 2 or 3)	Peripheral artery disease Metabolic syndrome Glucose intolerance Athletes and physically active patients Chronic obstructive pulmonary disease Tachyarrhythmias Heart failure
Calcium antagonists (dihydropiridines)		
Calcium antagonists (verapamil, diltiazem)	A-V block (grade 2 or 3) Heart failure Pregnancy	
ACE inhibitors	Angioneurotic oedema Hyperkalaemia Bilateral renal artery stenosis	
Angiotensin receptor antagonists	Pregnancy Hyperkalaemia Bilateral renal artery stenosis	



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