Nurse-sensitive factors in hypertension management

Hypertension treatment
State of the Art

Copper Hall 14:45-15:04 02/04/2011

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-There are no conflicts of interest to declare-

Summary

- Choice of anti hypertensive therapy
- Diabetes
- Elderly
- New drugs

CV: cardiovascular
D: diuretic
ACEi: converting enzyme inhibitor
ARB: angiotensin receptor blocker
BB: beta blocker
CA: Calcium antagonist

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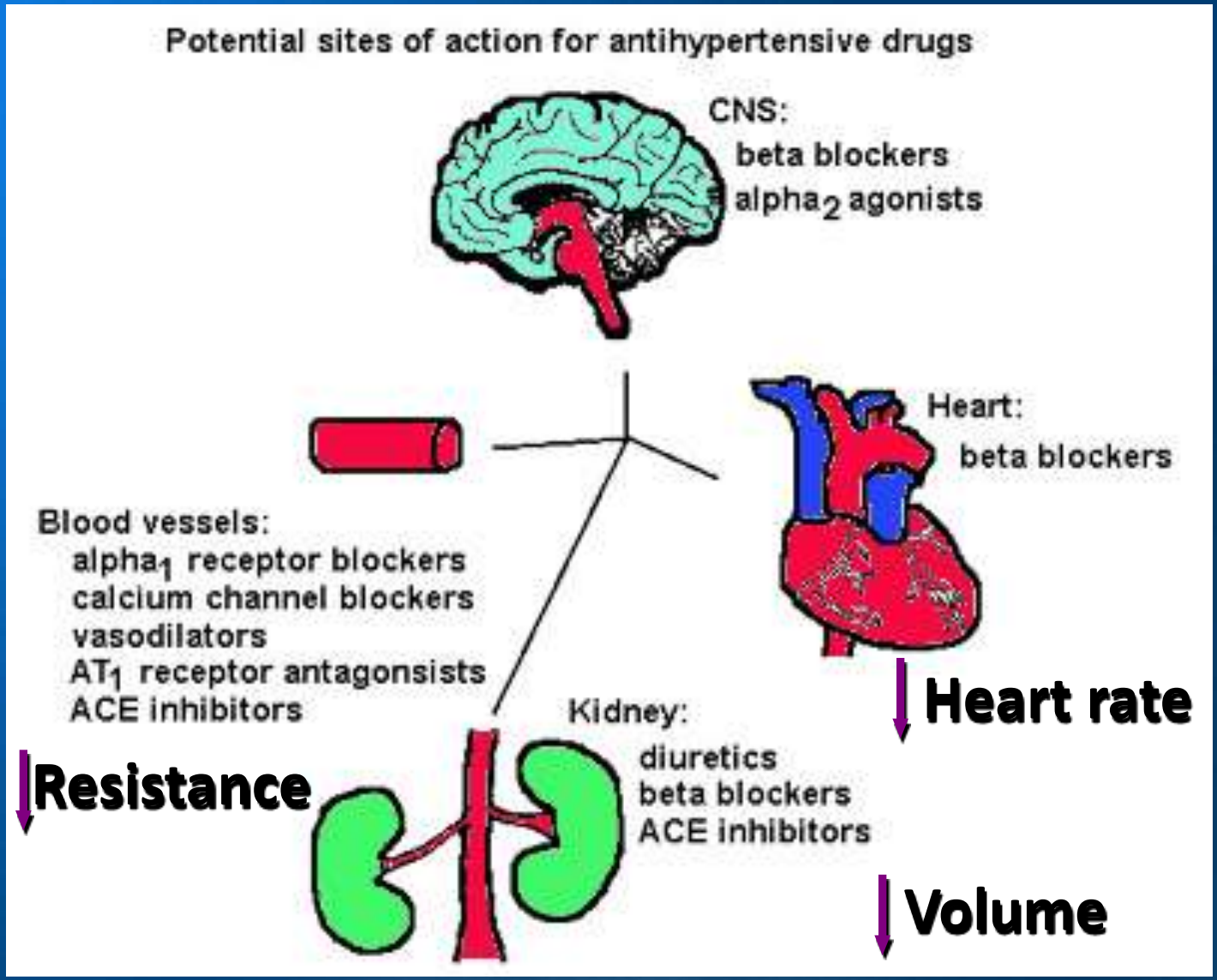
ARTERIAL PRESSURE = VOLUME EJECTED PER SYSTOLE X HEART RATE X PERIPHERAL RESISTANCE



Choice of Antihypertensive Drugs (I)

- Major antihypertensive drug classes do not differ in their ability to reduce BP
- Major drug classes do not differ in their ability to protect against overall CV risk or cause-specific CV events, e.g. stroke and myocardial infarction

- The 2007 ESH/ESC guidelines conclusion that D / ACEI / CA / ARB / BB can all be considered suitable for initiation / maintenance of antihypertensive treatment can thus be confirmed

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Choice of Antihypertensive Drugs (II)

- The percentage of patients responsive to any drug class is limited
- Patients responsive to one drug are often not those responsive to another drug
- Thus keeping the number of drug options large increases the chance of BP control in a larger fraction of HTs
- This is of crucial importance because CV protection by antihypertensive treatment substantially depends on BP lowering per se, regardless of how it is obtained

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Choice of Antihypertensive Drugs (III)

- Each drug class has contraindications as well favourable effects in specific clinical settings. The choice of drugs should be made according to this evidence
- The traditional ranking of drugs into first / second / third and subsequent choice, with an average patient as reference, has now little scientific and practical justification and should be avoided

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Ranking Drugs in Order of Choice

- Even reasons based on costs, often used to justify ranking, have recently been weakened by the advent of generic compounds within every class of antihypertensive agents

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Fixed-dose (or Single Tablet) Combinations

- Guidelines have long favoured the use of two-drug combinations in a single tablet (improvement in compliance which is low in hypertension)
- Whenever possible, use of single tablet combinations should be preferred, because simplification of treatment carries advantages for compliance to treatment
- Single tablet combination can be the first treatment step when high CV risk makes early BP control desirable
- This approach is now facilitated by the availability of different fixed-dose combinations of the same two drugs

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Choice of Combinations

- Despite trial evidence of outcome reduction, the ***BB / diuretic*** combination favours development of diabetes and should thus be avoided, unless required for other reasons, in predisposed subjects
- Use of an ***ACEI / ARB*** combination presents a dubious potentiation of benefits with a consistent increase of serious side effects

  Specific benefits in nephropathic patients with proteinuria (because of a superior antiproteinuric effect) expect confirmation in event based trials

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Choice of Combinations

- Several drug combinations are suitable for clinical use
- Trial evidence of outcome reduction has been obtained particularly for the combination of
  - Diuretic + ACEI
  - Diuretic + ARB
  - Diuretic + CA
  - ACEI + CA

- The ARB + CA combination also appears to be rational and effective
- These combinations should thus be recommended for priority use

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Threshold / Target BP for Treatment in Daiabetes Mellitus (DM)

- Antihypertensive treatment to be always initiated when BP ≥ 140/90 mmHg
- Limited trial support for treatment initiation at high normal BP / to be recommended in the presence of organ damage (e.g. microalbuminuria)
- The < 130/80 BP goal not supported by trial evidence / very difficult to achieve
- Realistic to pursue a sizeable BP reduction without indicating a goal which is unproven

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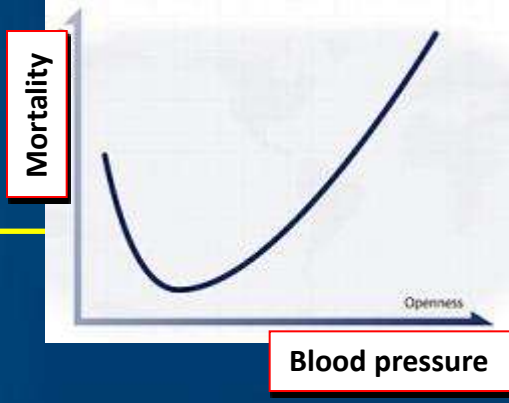
J Curve



A J curve-phenomenon is unlikely to occur until lower (< 120/75 mmHg) are reached except perhaps in patients with advanced atherosclerotic diseases

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Antihypertensive Drugs in Diabetics

- Meta-analyses of available trials show that in diabetes all major antihypertensive drug classes protect against CV complications, probably because of the protective effect of BP lowering per se. They can thus all be considered for treatment
- In diabetes combination treatment is commonly needed to effectively lower BP
- A renin angiotensin receptor blocker should always be included because of the evidence of its superior protective effect against initiation or progression of nephropathy

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Antihypertensive Treatment in the Elderly (I)

- In the elderly antihypertensive treatment is highly beneficial (large meta-analyses)
- In patients aged ≥ 65 the proportional benefit is no less than in younger patients
- Antihypertensive drug classes do not differ in their ability to lower BP / exert CV protection both in younger and in elderly patients
- The choice of the drugs to employ should thus not be guided by age
- Thiazide diuretics / ACEIs / CA / ARBs / BBs can be considered for initiation / maintenance of treatment also in the elderly

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Antihypertensive Treatment in the Elderly (II)

- In the elderly outcome trials have only addressed patients with an entry SBP > 160 mmHg
- In no trial in which a benefit was achieved SBP averaged < 140 mmHg
- Common sense considerations suggest that also in the elderly drug treatment can be initiated when SBP > 140 mmHg with the goal of going below this value
- Treatment should be conducted with particular attention to adverse responses, potentially more frequent in the elderly

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Treatment in Patients Aged ≥ 80 Years

- Evidence is now available from an outcome trial (HYVET) that antihypertensive treatment has benefits also in patients aged 80 years or more
- BP lowering drugs should thus be continued or initiated when patients turn 80, starting with monotherapy and adding a second drug if needed
- Because HYVET patients were generally in good condition, the extent to which HYVET data can be extrapolated to more fragile octogenarians is uncertain
- The decision to treat should thus be taken on an individual basis, and patients should always be carefully monitored during and beyond the treatment titration phase

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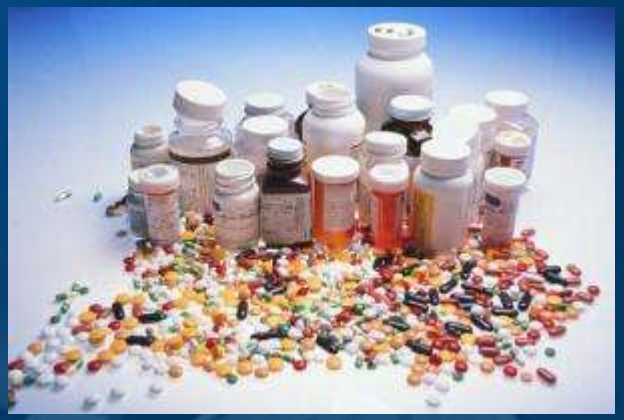

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New Antihypertensive Drugs

- No donors
- Vasopressin antagonists
- Neutral endopeptidase inhibitors
- AT_2 receptor agonists
- Endothelin receptor antagonists
- Renin inhibitors

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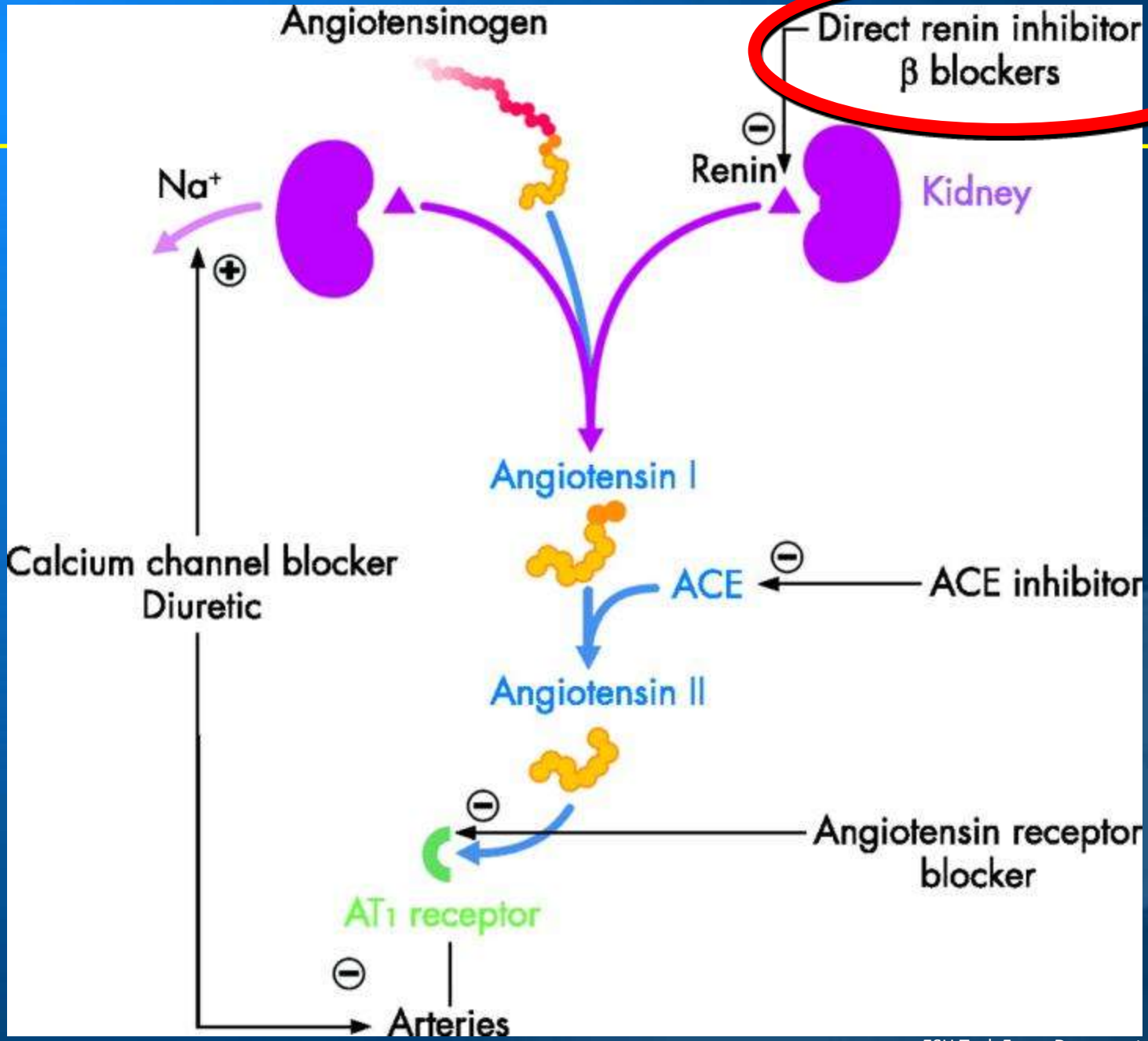

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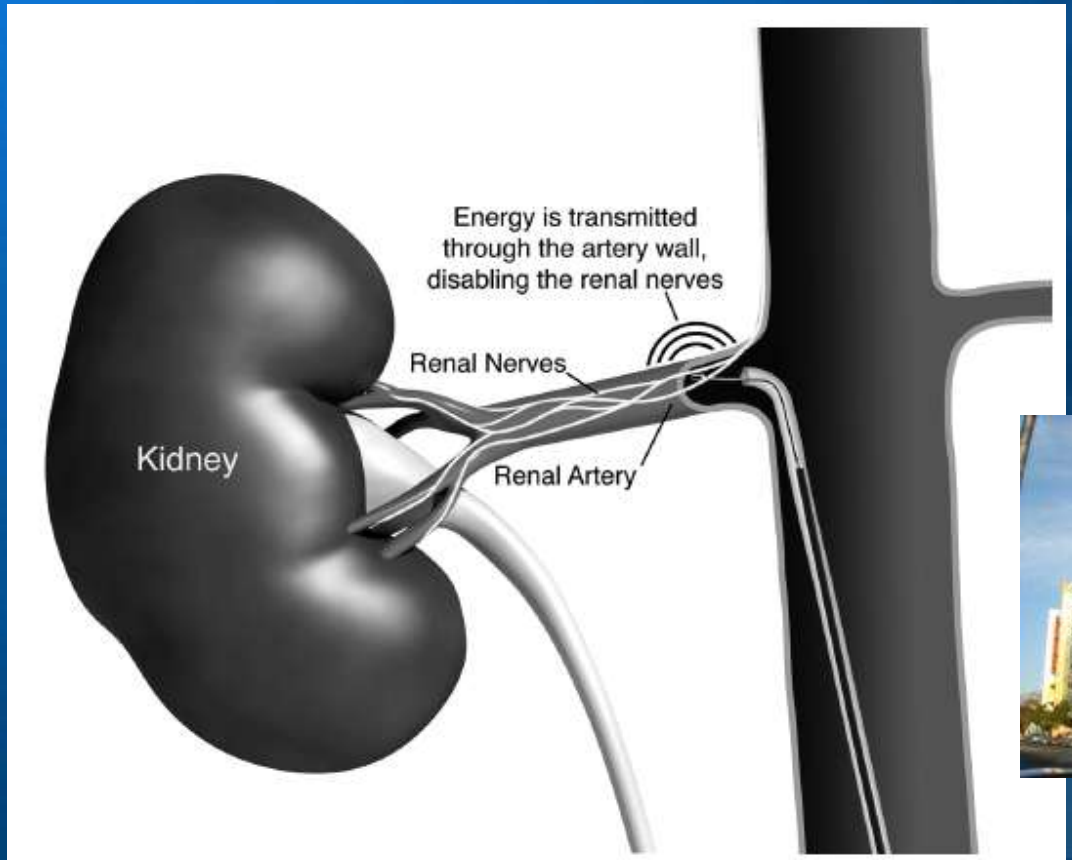
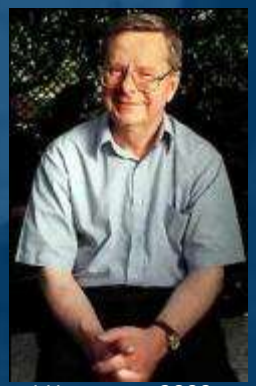
Catheter-based renal sympathetic denervation for resistant hypertension: a multicentre safety and proof-of-principle cohort study



Henry Krum, Markus Schlaich, Rob Whitbourn, Paul A Sobotka, Jerzy Sadowski, Krzysztof Bartus, Boguslaw Kapelak, Anthony Walton, Horst Sievert, Suku Thambar, William T Abraham, Murray Esler



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Lancet 2009; 373: 1275–81

THANK YOU FOR YOUR ATTENTION

Reappraisal of European guidelines on hypertension management: a European Society of Hypertension Task Force document

Journal of Hypertension 2009

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