

Combination Therapy Versus Monotherapy in Reducing Blood Pressure: Meta-analysis on 11,000 Participants from 42 trials

Problem: A 68yo male VA patient who is on 12.5mg Hydrochlorothiazide with uncontrolled hypertension. Which is more advantageous to the patient – increase HCTZ to 25mg or to add another agent?

Where to Look: The American Journal of Medicine 2009, 122 (3), pp.290-300

- In short: Meta-analysis with rigid selection criteria allowing for data collection over a larger group of subjects increasing the accuracy of data and validity of conclusions.
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Type of Study: Meta-Analysis of Randomized Controlled Trials (RCTs)

Question: Does adding a second antihypertensive agent to a regiment lead to improved blood pressure control when compared to increasing the dose of a single-agent regiment?

Relevance: Hypertension is very common as a component of the metabolic syndrome and as an isolated problem.

Method:

- P: Adult patients with HTN, undergoing treatment. Total of 10,698 patients from 42 articles included.
- I: Multi-drug regiments of antihypertensive medications
- C: vs Placebo and single-agent regiments
- O: Primary — Placebo-subtracted blood pressure reductions

Critical Appraisal:

- *Prognosis Equality and Randomization:* No reason to suspect difference in prognosis. Only RCTs with placebo control were included. Blinding not specified.
- *Analysis:* Placebo-subtracted values used, used “equivalent doses” with values obtained from reference sources
- *Follow-up:* No less than 2 weeks, the exact durations not listed.

Results:

--Primary Outcomes:

1. Blood pressure reduction: Combination of 2 classes of anti-hypertensives was 5 times more efficient than doubling a single-agent dose

--Secondary Outcomes:

1. None

Applicability: Very applicable for general practice, especially outpatient clinics.

--Not taking into account the variable pricing of the different groups of antihypertensives

--Does not account for additional compelling indications for some classes