

Introduction: This study tested patient use of a drug-device combination of a smartphone application (App) to record blood pressure (BP), drug (amlodipine) dose daily during the COVID-19 pandemic. Here we examine the effect of background level of antihypertensive therapy on response to titration of amlodipine, as the entry criteria for the study were very broad- excluding those already on 10mg of amlodipine or more, but little else.

Methods: In this community-based trial with remote monitoring and remote medical management from the investigational site, hypertensive participants aged 18 years + with poor BP control (prior 7 day mean of 135 mmHg systolic BP or above and/or 85 mmHg diastolic BP and above) were enrolled to intervention with open label dose titration over 14 weeks, allowing personalized dosing of liquid amlodipine (1–2 mg steps from 1–10 mg daily).

Results: 205 patients were enrolled into the intervention group between October 2020 and July 2021. Average BP in intervention fell from 141/87 to 131/81 (difference -10/6 $p < 0.001$). Even low doses or small increments: 1 or 2 mg amlodipine or 5 mg to 6 mg, produced meaningful BP responses. Here we report that the addition of amlodipine during the study reduced blood pressure regardless of background level of antihypertensive medication: No antihypertensive ($n=49$), Amlodipine monotherapy ($n=26$), Amlodipine in combination therapy ($n=36$) or Other antihypertensive medication ($n=94$). The response slopes were comparable, and mean reductions in SBP were consistent across groups: -11.9 (95% CI: -13.8 to -9.9); -10.9 (-13.6 to -8.2); -8.5 (-10.7 to -6.3); -11.7 (-13.1 to -10.3), respectively.

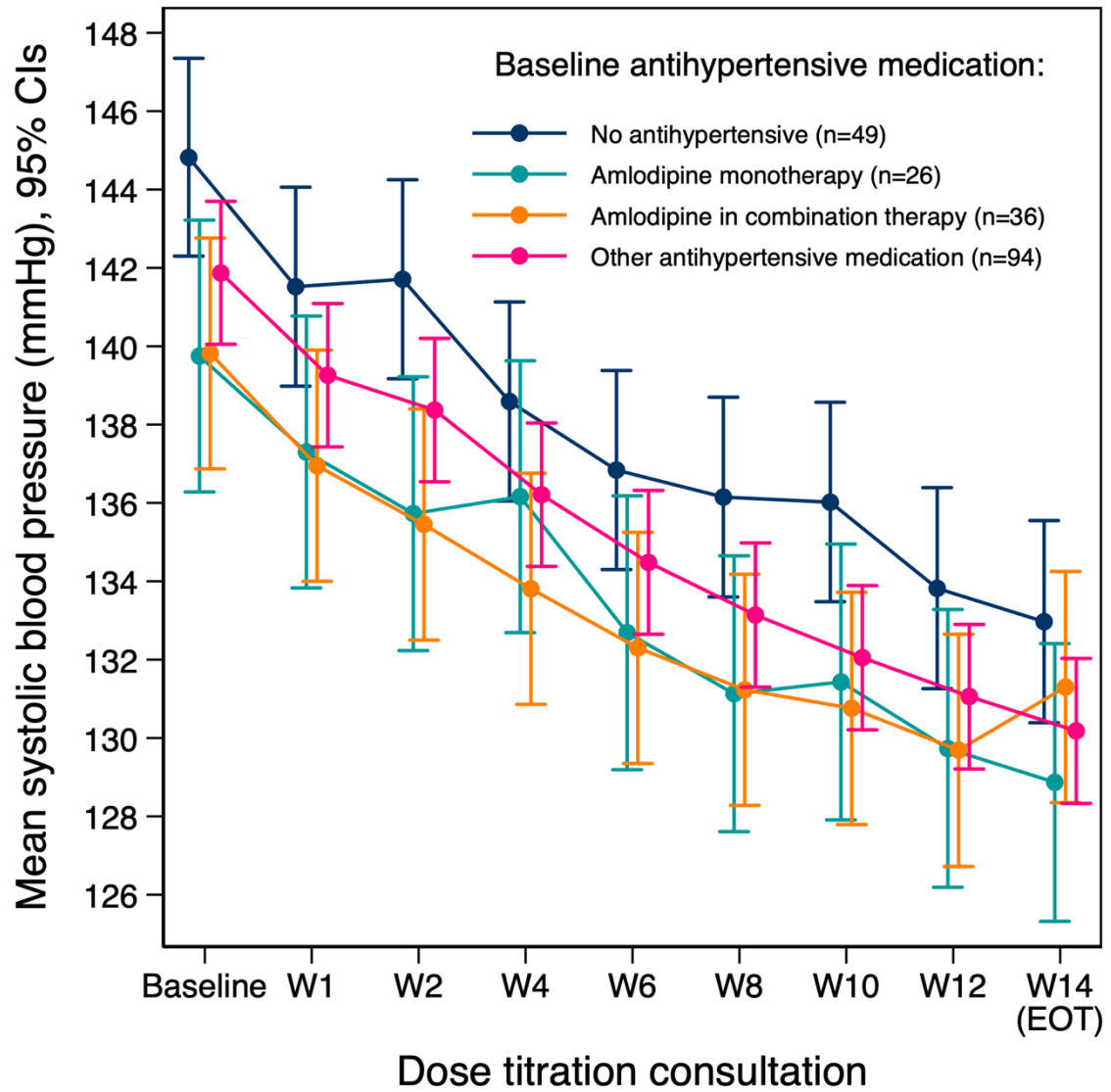
Conclusions: Although previous meta-analyses have suggested that the effect of addition of antihypertensive medications is largely additive (Law et al) our real-world remote care study produced results consistent with this view- treatment titration was effective regardless of level background therapy, or stage along the hypertension care pathway.

Disclosures:

References:

Law et al BMJ 2003;326:1427

Figure 1: Mean systolic blood pressure over time, by baseline antihypertensive medication subgroup in the intervention cohort



Note: estimates are from a linear mixed effects model with a random subject component.