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Amlodipine plus telmisartan or amiloride for hypertension in moderate and high-risk patients: A 24-week observation

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Objective: The aim of the present study was to evaluate the short-term effect of amlodipine-based antihypertensive combination regimens on reduction of blood pressure and adverse effect in hypertensive patients with moderate or high risk of cardiovascular event. **Methods:** In this randomized, blinded trial, 106 hypertensive patients met the inclusion criteria and were enrolled. Patients were randomly assigned to A group (amlodipine 2.5 mg plus telmisartan 80 mg group) or B group (amlodipine 2.5 mg plus 1 tablet of amiloride group); amlodipine 2.5 mg could be added if blood pressure beyond control at 4 weeks. Follow up was 24 weeks. Primary efficacy parameter was reduction of blood pressure at 24 weeks. Physical and laboratory characteristics and side effects were recorded. **Results:** Baseline systolic blood pressure was 160.5 ± 16.5 mm Hg and diastolic blood pressure was 98.7 ± 9.7 mm Hg. After 2 weeks treatment, mean systolic blood pressure in group A and B was (151.5 ± 14.8) mm Hg and (144.4 ± 13.9) mmHg, respectively ($P < 0.05$). Mean diastolic blood pressure in group A and B was reduced to (91.7 ± 9.6) mm Hg and (90.1 ± 9.4) mm Hg, respectively ($P > 0.05$). Blood pressure control rate was 47.2% and 58.1% in group A and B ($P < 0.05$). After 24 weeks of therapy, there were no significant differences on reduction of blood pressures (SBPs 24.3 ± 15.8 vs 26.8 ± 13.4 , $P > 0.05$) (DBPs 15.2 ± 9.2 vs 15.7 ± 9.4 , $P > 0.05$) or blood pressure control rates (67.9% of vs 71.7%, $P > 0.05$) in two groups. Compared with A and B groups, both of them reported equivalent of adverse effects (7.6% of amiloride vs 9.4% of telmisartan, $P > 0.05$). **Conclusion:** Amlodipine-based antihypertensive combination strategies achieved satisfactory blood pressure control in hypertensive patients with moderate or high cardiovascular risk. Yet, more predominant efficacy on the reduction of blood pressure and blood pressure control rates shows in the combination of amlodipine and amiloride at 2-week follow-up. Adverse effects and organ benefits beyond reducing blood pressure warrant longer clinical observation.

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The combination of amlodipine and angiotensin receptor blocker or diuretics in high risk hypertensive patients

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Objectives: The Chinese Hypertension Intervention Efficacy Study is designed to explore the effects of integrated intervention on cardiovascular events in high risk hypertension patients using calcium channel blocker-based antihypertensive treatment, statin-based lipid lowering treatment and lifestyle intervention. **Methods:** Patients are eligible for inclusion if they are essential hypertension, 50–79 years of age with at least one cardiovascular risk factor and sign the consent forms. It is a Prospective Randomized Open-label Blinded End-point trial with a 2×2 factorial component. Patients are randomly assigned to low-dose amlodipine + diuretics (group A) or amlodipine + telmisartan (group T). Among those patients with blood cholesterol between 4.0 and 6.1 mmol/L are also randomized into small dose of statin-based regimen or standard management regimen. Patients are randomly assigned to intensive lifestyle intervention group or standard intervention group according to the

community area where the patients are. The patients will be followed-up for 4 years. **Results:** From Oct 2007 to Oct 2008, a total of 13,542 patients were randomized into study from 180 centers in China, of these 9913 were also randomized into the lipid lowering limb. The baseline characteristics of patients in group A and group T were similar: mean age 61.5 ± 7.7 years, the history of stroke, history of coronary heart disease, diabetes and dyslipidemia was 11%, 12%, 18% and 42%, respectively. The mean blood pressure was 157/93 mm Hg at baseline. The BP control rate reached 85% for both groups at 3-year visit. **Conclusions:** Calcium channel blocker based combination therapy is suitable for most of the high risk hypertensive patients in China. Antihypertensive treatment should not be based on BP alone; modification of lipid profile and lifestyle interventions should also be taken into account in the overall management plan.

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Effects and reversal of left ventricular hypertrophy of amlodipine plus amiloride/hydrochlorothiazide versus amlodipine plus telmisartan in patients with mild to moderate hypertension

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Objectives: The study evaluated the efficacy and reversal of left ventricular hypertrophy with amlodipine plus amiloride/hydrochlorothiazide compared with amlodipine plus telmisartan over 24 months in patients with hypertension. **Methods:** Patients with hypertension were randomized to receive either amlodipine plus amiloride/HCTZ (Group A) or amlodipine plus telmisartan (Group B). Efficacy variables included the changes of BP, control rate after 24 months treatment. Left ventricular mass (LVM) was determined by using the Troy formula. Left ventricular mass was divided with body surface area to obtain the left ventricular mass index (LVMI). The primary end point was a composite of CV death, stroke, and myocardial infarction. **Results:** After 24 months treatment, BP in Group A decreased from $158.9 \pm 10.2/93.2 \pm 6.9$ mm Hg to $126.2 \pm 9.5/78.5 \pm 7.4$ mm Hg ($P < 0.01$), and that in Group B from $160.1 \pm 9.7/93.3 \pm 7.1$ mm Hg to $128.1 \pm 10.4/81.9 \pm 8.7$ mm Hg ($P < 0.01$). The BP changes were similar in two groups. LVMI decreased from 185.2 ± 11.7 to 162.3 ± 10.4 in group A and 181.2 ± 10.1 to 127.6 ± 9.6 in group B. Both groups showed significant reductions of LV mass and LVMI. The reduction of LVMI was 53 g/m^2 in Group B and 23 g/m^2 in Group A ($P < 0.01$). LV mass and LVMI changes were superior in Group B. Cardiovascular mortality, stroke, myocardial infarction was no significant difference for two groups. **Conclusions:** Amlodipine plus amiloride/HCTZ or telmisartan produced a similarly and significant BP reduction, but amlodipine plus telmisartan have greater regression of left ventricular hypertrophy.

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Reductions in blood pressure with additional lipid-lowering treatment among hypertensive patients: Results from China

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