

Conclusions Patients with end-stage CRF exhibited a 15–20 years shift to the right in age-related changes in IMT and arterial stiffness. Better blood pressure control is required in this population. ASFAST will provide a definitive answer to the question as to whether or not folate therapy has cardiovascular benefits in CRF.

Key words: Atherosclerosis, Carotid arteries, Clinical trials, Hypertension

The long-term effect of perindopril 4–8 mg and amlodipine 5–10 mg on ambulatory blood pressure (ABP) and cardiac structure in subjects with primary essential hypertension

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Background Whilst it has been proposed that ACE inhibitors and calcium channel blockers have a greater effect on reducing left ventricular mass (LVM) than β -blockers and diuretics, we aimed to compare the effect of 12 months treatment with an ACE inhibitor, perindopril (P) with the CCB, amlodipine (A) on ambulatory blood pressure (ABP) and on cardiac structure in patients with mild-moderate hypertension.

Methods Male or female subjects, 18–65 years, with supine diastolic (DBP) > 95 mmHg, having been untreated or previously ceased antihypertensive therapy treatment. Following a placebo run-in of 4 weeks, subjects were randomised in a double blind manner to (P) 4 mg or (A) 5 mg orally. The medication dose was titrated, being increased to (P) 8 mg or (A) 10 mg daily if BP was not controlled.

Results 36 subjects participated and 41.2% and 10.5% were female in the P and A groups, respectively ($P = 0.034$). The day-time ABP values (mmHg) prior to the run-in period were (P: 154/100, A: 160/100, $P = ns$). At 1 years they were (P: 133/86 (–21/–14) mmHg, A: 137/86 (–23/–14) mmHg; all $P < 0.001$ for the over time analysis). There were no significant between group differences at week 52.

Prior to the run-in period posterior wall thickness (PWT), LVM, WT (interventricular septal wall thickness (IVS) + (PWT)/2) and LVMI were significantly lower in the P group ($P < 0.05$). On the intention to treat analysis IVS, PWT, LVM, LVMI and WT all decreased significantly over time. This degree of decrease did not differ significantly between the groups on a repeated measures analysis including the 27 subjects who had the tests at both times.

Conclusion P and A treatment for 1 years, lowered ABP values and decreased heart size in subjects with mild-moderate hypertension. There were no significant differences between treatment groups in these effects.

Key words: ACE inhibitor, Ambulatory blood pressure, Calcium channel blocking drugs, Hypertrophy

Echocardiographic Left Ventricular Hypertrophy and Prognosis – A Meta-Analysis

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Background Baseline echocardiographic left ventricular hypertrophy (LVH) is associated with cardiovascular (CV) morbidity and mortality. There are many different formulae and partition values used to define LVH. Our objective was to analyse the relationship between baseline LVH and subsequent adverse clinical events, assessing which formulae and cut-points are more predictive.

Methods We systematically reviewed Medline, EMBASE, Cochrane, references lists and conference proceedings to search for cohort studies or randomised control trials where LVH status at baseline was determined in subjects with hypertension (with or without coronary artery disease (CAD)). 24 studies were found with outcomes such as all cause mortality, cardiac death, nonfatal CV events and stroke.

Results Of 10 studies assessing all cause mortality, 6 were combined. The individual study relative risks (RRs), sensitivities and specificities ranged from 1.49 to 7.33, 30–73% and 49–82%, while the combined weighted RR, sensitivity and specificity was 2.10 (95% CI 1.79–3.24), 57% and 68%, respectively. 14 studies assessing CV events (morbidity and CV mortality) with individual RRs, sensitivities and specificities of 1.20–3.83, 34–82% and 50–83% were combined to give a RR, sensitivity and specificity of 2.26 (2.02–2.52), 58% and 69%, respectively. 3 of these studies using a

partition value of 134 g/m² in men and 110 g/m² in women had a pooled RR, sensitivity and specificity of 2.57 (2.17–3.03), 73% and 66%. A further 5 studies using the partition value of 125 g/m² had individual RRs, sensitivities and specificities of 2.01–3.83, 40–50% and 76–83%, while the combined values were 2.33 (1.75–3.09), 45% and 77%.

Conclusion LVH is associated with an approximate two fold increased risk for all cause mortality and 2.3 fold increased risk for nonfatal and fatal CV events. Gender specific criteria were more sensitive than gender nonspecific criteria without great compromises in specificity.

Key words: Cardiovascular disease, Echocardiography, transthoracic, Hypertension, Hypertrophy

Effects of Fixed-Dose Combination Fosinopril/Hydrochlorothiazide on Blood Pressure in Uncontrolled Hypertension

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Background Only the minority of treated hypertensive patients achieve target BP. It has been proposed that the use of fixed-dose combination medications will achieve better blood pressure control in treated hypertensive patients.

Methods This random-order, open-label parallel group study compared the effects of treating general practice patients with mildly elevated BP with a fixed-dose combination medication for 8 weeks compared to usual care. Entry criteria included a diastolic BP (DBP) of 85–99 mmHg and/or systolic BP (SBP) 140–159 mmHg after at least 3 months of constant dose monotherapy for hypertension. Patients were randomised to combination therapy (CT) or usual care (UC) at a 3:1 ratio. Patients on CT commenced fosinopril/hydrochlorothiazide at 10 mg/12.5 mg. If the BP was uncontrolled after 4 weeks of treatment, the dose was titrated to 20 mg/12.5 mg. Clinicians were free to alter antihypertensive therapy in the UC group according to clinical indications.

Results Data was available for analysis in 321 patients who were aged 59 ± 13 years (mean ± SD) and with BP of 151 ± 8.8/83 ± 7.9 mmHg. Of the 251 patients randomised to CT, 109 (43%) required a dose increase at week 4. Of the UC group, 15% had a dose titration, 6% had an additional agent added, 25% had their medication changed and 54% had no change to therapy. UC was associated with significant falls in SBP and DBP over the 8 week treatment period (–8.6 ± 13.3/–4.6 ± 7.3 mmHg, $P < 0.001$ for both). Compared to the week 8 UC values, CT caused significantly greater falls in BP after 4 weeks (–12.4 ± 12.1/–7.0 ± 8.1 mmHg, $P < 0.05$ for SBP) and 8 weeks of treatment (–15.0 ± 13.2/–8.1 ± 8.0 mmHg, $P < 0.001$ for SBP and $P < 0.002$ for DBP). The greater effect of CT on BP was associated with significantly more patients achieving a BP of < 140/ < 90 mmHg (60% with CT vs. 36% with UC, $P = 0.001$).

Conclusion Switching from monotherapy to a fixed-dose fosinopril/hydrochlorothiazide combination tablet allows more patients with uncontrolled BP to achieve target BPs.

Key words: Hypertension, Pharmacology

Comparison of acute change in brachial and aortic blood pressure as induced by ramipril 10 mg and atenolol 100 mg

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Background On the basis of small change in brachial artery pressure, the HOPE investigators concluded that beneficial effects of ramipril on the heart and central arteries were not due to hemodynamic improvement. In a study comparing an ACE inhibitor/diuretic combination with atenolol, the REASON investigators come to the opposite conclusion.

Methods Hence we studied 30 patients similar to those in HOPE, aged 67 ± 10 years with ≥ 1 coronary risk factors in an acute, randomized, double-blind, placebo-controlled, crossover trial comparing the effects of oral ramipril 10 mg, atenolol 100 mg and placebo on brachial sphygmomanometric blood pressure, and aortic pressure values