THE HYPERTENSION OPTIMAL TREATMENT (HOT) STUDY - HOME BP IN TREATED HYPERTENSIVES.

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The HOT Study is a prospective and randomized trial of 19,193 pts. 50-80 yrs. to evaluate target DBP ≤80, ≤85 or ≤90 mmHg vs. cardiovascular events and effects of aspirin 75 mg QD vs. placebo. Treatment was initiated with felodipine 5 mg QD and additional treatment given according to a set protocol. The present substudy of 914 treated patients in 9 countries with ≈34,000 measurements aimed to compare home with office BP and see if the separation into the main target groups in the office could be expanded into the ambulatory setting.

Office vs. home registrations:

ΔHR 1.7±9 beats/min, P<0.0001
ΔDBP 0.2±9 mmHg, P=0.45, n.s.
ΔSBP 0.5±15 mmHg, P=0.36, n.s.

At home, the differences between the 3 BP target groups (≤80, ≤85 or ≤90 mmHg) were 1.9 and 1.2 mmHg for DBP and 2.6 and 2.1 mmHg for SBP. There were strong correlations between office and home DBP (r=0.35, p<0.0001), SBP (r=0.45) and HR (r=0.73). Thus, despite some alerting effect on HR, office and ambulatory BPs are comparable in treated hypertensives in the HOT Study, and the separation into the 3 BP target groups based on office readings prevails into the out-of office setting.

Key Words: clinical trial, the HOT Study, home BP.

TWENTY-FOUR HOUR BLOOD PRESSURE MONITORING TO COMPARE THE EFFICACY AND DURATION OF ACTION OF THE ATII ANTAGONIST TELMISARTAN TO AMLODIPINE.

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To assess the efficacy and duration of action of Telmisartan (T), a newly developed angiotensin II antagonist, a study was performed in Canada comparing T to Amlodipine (A) and placebo in 185 (T=62, A=65 and P=58) patients with mild to moderate hypertension. Following a 4 week single blind run-in period, qualifying patients were randomized to either: a) Telmisartan 40mg titrated to 80mg and 120mg for DBP ≥ 90mmHg; b) Amlodipine 5mg titrated to 10mg; or c) placebo. Ambulatory BP monitoring was performed at the end of the run-in and again at the end of the treatment phase. Both T and A resulted in significant reductions in both systolic and diastolic BP when compared to placebo, and maintained BP control throughout the dosing interval. A comparison between T and A demonstrated the following:

	Systolic Blood Pressure		Diastolic Blood Pressure	
	Telmisartan	Amlodipine	Telmisartan	Amlodipine
Efficacy				
24h Mean	-18.4 ± 1.4	-15.6 ± 1.4	-11.4 ± 0.9	-9.4 ± 0.9
Daytime Mean	-19.1 ± 1.4	-16.4 ± 1.4	-11.5 ± 0.9	-10.0 ± 0.9
Nighttime Mean	-16.9 ± 1.6	-13.6 ± 1.6	-10.9 ± 1.1*	-8.0 ± 1.1
Syst./Diast. Load	31.4 ± 28.6	41.3 ± 27.0*	27.4 ± 25.3	34.8 ± 23.2
Duration of Action				
Last 4 hours	-17.7 ± 1.7	-14.4 ± 1.7	-11.7 ± 1.1*	-8.4 ± 1.1
6am - 12noon	-18.3 ± 1.5	-15.7 ± 1.5	-11.7 ± 0.9	-10.0 ± 0.9

*p<0.05 Telmisartan versus Amlodipine

Heart rate measured during the last 4 hours was significantly lower in patients treated with T (-4.9 ± 0.9 mmHg) than in those treated with A (+0.7 ± 0.9 mmHg; p<0.0001). Similarly, heart rate during the period 6am to 12noon was significantly lower in the T treated patients than in the A treated group (-2.7 ± 0.9 vs. 0.7 ± 0.9 mmHg; p<0.005).

Thus, when used as monotherapy both T and A significantly reduce systolic and diastolic BP when compared to placebo. Also, T resulted in greater reductions in both systolic and diastolic BP than A and had a longer duration of action. Despite greater nighttime reduction of BP, T had lower heart rates than A in the early morning period.

Key Words:
Angiotensin II antagonist; Duration of action; Therapy

EFFECT OF ALCOHOL ON AMBULATORY BLOOD PRESSURE AND TARGET ORGANS IN SUBJECTS WITH MILD HYPERTENSION.

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The objective of this study was to examine the effect of alcohol on ambulatory blood pressure (BP) and target organ in a young population with borderline to mild hypertension. Participants were 1100 subjects, aged 18 to 45 years, from the Harvest Study. In the final analysis three age-matched male groups were considered. Reported alcohol intake and smoking habits, office and 24-hr BP, echocardiography and albumin excretion rate (AER) were available. Men were divided into three groups, 1) non drinkers, 2) drinking less than 50/g per day and 3) more than 50/g per day. Office BP was not significantly different among the three groups while 24-hr and daytime BPs increased progressively from the first to the third group. The difference was still significant after adjusting for smoking (group 1 vs 3 p=0.03 for 24-hr systolic BP). LV mass index, interventricular septum thickness (IVS) and wall thickness (sum of IVS and posterior wall thickness) increased progressively from group 1 to group 3. Wall thickness and IVS remained significantly higher in heavy drinkers also after adjusting for smoking, and 24-hr BP (wall thickness p=0.034; IVS p=0.046). AER was much higher in the third group (p=0.003) and the difference was still significant after correction for smoking (p=0.04) but when 24-hr BP was added to the model the difference ceased to be significant. In conclusion this data indicate that alcohol affects LV mass, wall thicknesses and kidney. The effect on LV mass appears to be mostly direct while the increase in AER seems to be mediated mainly by the alcohol effect on BP.

Key Words: alcohol, hypertension, ABPM, echocardiography, urinary albumin.