A total of 9711 patients were randomized. Over 60 follow-up months, 159,844 BP measurements were performed with 3 SBP and 3 DBP readings over 30 minutes at each observation. Mean SBP and DBP values were calculated based on overall follow-up time.

During further analysis of the study data, investigators took a different analytical approach in order to reveal the nature of the J-curve phenomenon. This approach evaluated moving events per 1000 patient observations (MEPPO) instead of applying the previous overall means methodology. Analysis was then based on observations from each visit in which event and BP data was collected. Therefore, event data corresponded with BP measured prior to the visits. Zhang and colleagues also limited the previously broad 10 mm Hg range to which events were referred to 1 mm Hg steps. This allows for each observation to enter 10 times into 10 consecutive 10 mm Hg BP ranges. Thus, the overall number of analyzed data is greatly increased.

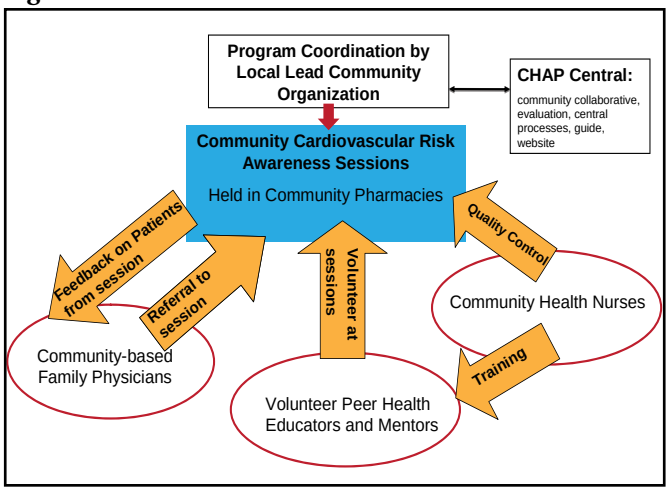
Using this methodology, the J-curve phenomenon was determined to be genuine. After adjusting for baseline risks, the risk of CV events correlated with SBP of 129 mm Hg to 139 mm Hg and DBP of 79 mm Hg to 86 mm Hg in the FEVER trial. The lowest point of the J-curve was consistent with and without adjustments. These are important findings with regards to optimal BP goals in patients receiving drug therapy for hypertension.

An Innovative Approach to Cardiovascular Risk Reduction: Results from the C-CHAP Study

A community outreach program aimed at improving cardiovascular (CV) health awareness is an effective, feasible approach to CV management and risk reduction, according to results from the Community Cardiovascular Health Awareness Program (C-CHAP). Lisa Dolovich, BScPhm, MSc, PharmD, McMaster University, Hamilton, Ontario, Canada, presented results from this Canadian community cluster, randomized, controlled trial.

C-CHAP was designed to evaluate the effectiveness of a CV health awareness program in reducing the incidence of stroke and CV morbidity at the community level (population 10,000 to 60,000). Randomization included 39 communities with participating family physicians and pharmacists, of which 20 received intervention. C-CHAP intervention consisted of community-wide CHAP session promotion, trained peer volunteers who monitored blood pressure (BP) measurements (via an automated device) and administered standardized CVD and stroke risk assessments, and local educational resources targeting specific modifiable risk factors were provided to all participants (Figure 1). BP and risk assessment data were entered into a centralized, web-based data management system and was disclosed to clinicians and participants. Community health nurses and pharmacists were made available to those participants who had high BP readings and follow-up was arranged for those participants who were deemed high-risk. CHAP education sessions were held on a weekly basis for all participants.

Figure 1. How CHAP Works.



In the fall of 2006, CHAP was successfully launched in 20 randomly selected communities with 214 active physician participants and 129 active pharmacy participants. Assessments were performed on 15,889 unique participants and 1265 sessions took place (~25% of older adults attended at least one session). Pre- and post-CHAP data were documented and analyzed (defined as 01/09/2005-31/08/2006 and 01/09/2007-31/08/2008, respectively).

The primary composite end-point was the rate of hospital admissions for acute myocardial infarction (AMI), congestive heart failure (CHF), and stroke among community residents aged ≥65 years. A significant decrease in hospital admissions for the composite endpoint was observed in the CHAP group compared with control (RR, 0.91; 95% CI, 0.86 to 0.97; p<0.01). The CHAP communities demonstrated a 6% decrease in hospital admissions during the aforementioned time period, while the control communities demonstrated a 3% increase. The rate of hospital admissions for AMI and CHF also favored the CHAP approach compared with control (p<0.01 for AMI and p=0.03 for CHF). CHAP resulted in lower rates of in-hospital death (p=0.06) and fewer instances of hypertension therapy initiation (p=0.02).

This innovative approach to CV risk reduction resulted in significant decreases in CV morbidity. It appeared to be

well-received, as there was a high rate of participation on the part of the health professionals, the peer volunteers, and the community participants. The CHAP study demonstrated that this is an effective approach to CV management and risk reduction at the community level. More information regarding this program can be found at www.CHAPprogram.ca.

All Patients with Uncontrolled Blood Pressure on Valsartan Monotherapy Benefit from Switch to Combination Therapy

Classifying patients with uncontrolled hypertension by degree of response to valsartan monotherapy has a limited value in predicting which patients will benefit from the addition of hydrochlorothiazide (HCTZ), according to findings from a new study. Despite failing to meet blood pressure (BP) targets with valsartan monotherapy, all patients with stage 2 hypertension experienced dose-dependent improvements in BP control with the addition of HCTZ.

In studies of new antihypertensive agents, patients who do not reach predefined BP targets with monotherapy are described as non-responders. Despite not reaching goal, however, some of these patients may have had some degree of BP reduction in response to monotherapy. The magnitude of response to single-agent antihypertensive therapy in these patients can be classified according to change in systolic BP (SBP) as non-response (no change), poor response (0 to <10 mm Hg), or good response (≥10 mm Hg).

The current study was designed to evaluate whether initial response to valsartan monotherapy predicts response to additional treatment with valsartan monotherapy or combination therapy with valsartan plus HCTZ. Domenic A. Sica, MD, Virginia Commonwealth University, Richmond, Virginia, USA, presented results from a pooled analysis of two large hypertension trials.

Together, the two hypertension trials included 6800 patients with a baseline diastolic BP (DBP) ≥95 mm Hg. After 4 weeks of valsartan 160-320 mg monotherapy, 4704 patients were classified as non-responders with uncontrolled DBP (>90 mm Hg). These patients were randomly assigned to additional treatment with valsartan monotherapy or valsartan plus HCTZ 12.5-25 mg.

Initial response to valsartan monotherapy was not a strong predictor of future response to valsartan-based therapy. Patients who were classified as poor responders to monotherapy had the largest reductions in SBP after additional treatment with valsartan monotherapy (-13.7 mm Hg), valsartan plus HCTZ 12.5 mg (-19.3 mm Hg), and valsartan plus HCTZ 25 mg (-22.7 mm Hg). After 8 weeks of additional treatment, poor responders had absolute BP levels that were similar of those to good responders.

Patients who showed a good initial response to valsartan monotherapy had modest additional reductions in SBP levels (-2.3 mm Hg) after 8 additional weeks of single-agent valsartan. Patients in all response groups experienced dose-dependent benefits with add-on HCTZ therapy. These findings suggest that all patients benefit from combination therapy with valsartan and HCTZ, regardless of initial response to valsartan monotherapy.

Olmesartan Reduces Microalbuminuria in Patients with Type 2 Diabetes

Early treatment with the angiotensin receptor blocker (ARB) olmesartan significantly reduced the risk of developing microalbuminuria among patients with type 2 diabetes, according to new interim findings from the ongoing Randomized Olmesartan and Diabetes Microalbuminuria Prevention (ROADMAP) trial. However, olmesartan also appeared to increase the risk of cardiovascular (CV) mortality, raising concerns about the safety of ARBs in this patient population.

The ROADMAP trial was designed to evaluate whether early intervention with an ARB prevented or delayed the onset of microalbuminuria (MAU), an early marker of renal disease and future CV events, in patients with type 2 diabetes. The multicenter randomized trial included 4449 men and women with type 2 diabetes, normal kidney function, and at least one additional CV risk factor, including hypertension. The mean baseline blood pressure (BP) level was 136/81 mm Hg.

Participants were randomly assigned to treatment with olmesartan 40 mg daily (n=2232) or placebo (n=2215). Patients were permitted to receive other antihypertensive medications during the study, but not other angiotensin-converting enzyme (ACE) inhibitors or ARBs. The primary endpoint was time to onset of MAU, and secondary endpoints included renal and CV events. Hermann Haller, MD, Hannover Medical School, Hanover, Germany, presented 48-month findings from the ongoing ROADMAP trial.

Treatment with olmesartan was associated with effective BP control. After 48 months, 78.2% and 71.3% of patients in the olmesartan and placebo groups, respectively, reached target BP levels of <130/81 mm Hg.