Use of Ambulatory Blood Pressure Monitoring to Compare Antihypertensive Efficacy and Safety of Two Angiotensin II Receptor Antagonists, Losartan and Valsartan

ABSTRACT

The efficacy and safety of losartan and valsartan were evaluated in a multicenter, double-blind, randomized trial in patients with mild to moderate essential hypertension. Blood pressure responses to once-daily treatment with either...
losartan 50 mg (n = 93) or valsartan 80 mg (n = 94) for 6 weeks were assessed through measurements taken in the clinic and by 24-hour ambulatory blood pressure monitoring (ABPM). Both drugs significantly reduced clinic sitting systolic (SiSBP) and diastolic blood pressure (SiDBP) at 2, 4, and 6 weeks. Maximum reductions from baseline in SiSBP and SiDBP on 24-hour ABPM were also significant with the two treatments. The reduction in blood pressure was more consistent across patients in the losartan group, as indicated by a numerically smaller variability in change from baseline on all ABPM measures, which achieved significance at peak ($P = .017$) and during the day ($P = .002$). In addition, the numerically larger smoothness index with losartan suggested a more homogeneous antihypertensive effect throughout the 24-hour dosing interval. The antihypertensive response rate was 54% with losartan and 46% with valsartan. Three days after discontinuation of therapy, SiDBP remained below baseline in 73% of losartan and 63% of valsartan patients. Both agents were generally well tolerated. Losartan, but not valsartan, significantly decreased serum uric acid an average 0.4 mg/dL at week 6. In conclusion, once-daily losartan 50 mg and valsartan 80 mg had similar antihypertensive effects in patients with mild to moderate essential hypertension. Losartan produced a more consistent blood pressure–lowering response and significantly lowered uric acid, suggesting potentially meaningful differences between these two A II receptor antagonists.

Keywords: | angiotensin II antagonist; uric acid; valsartan; losartan; ambulatory blood pressure monitoring (ABPM)

INTRODUCTION

Losartan, the first orally active, nonpeptide, highly selective angiotensin II (A II) receptor antagonist, has been shown to lower blood pressure, reverse end-organ damage, and increase survival in numerous preclinical studies in experimental animals. Losartan has also been widely studied in hypertensive patients in whom it showed superior tolerability compared with antihypertensive agents from other classes. The discovery of losartan has led to other structurally related A II antagonists, such as valsartan, candesartan, and irbesartan.

Recent studies have suggested that valsartan may have blood pressure–lowering advantages over losartan in hypertensive patients. This is unexpected, because a meta-analysis showed that losartan’s antihypertensive effects did not differ from those of valsartan, candesartan, and irbesartan, alone or in combination with hydrochlorothiazide. Moreover, a significant interaction with food has been reported for valsartan.

The present trial was undertaken to compare the magnitude and variability of the antihypertensive efficacy of losartan 50 mg and valsartan 80 mg, administered at their recommended monotherapy starting doses for 6 weeks without further titration, in patients with mild to moderate essential hypertension. Results of 24-hour ambulatory blood pressure monitoring (ABPM) and clinical sphygmomanometry were used to characterize the blood pressure response to these two A II receptor antagonists.