

Telmisartan/hydrochlorothiazide A Viewpoint by Paolo Verdecchia

Department of Cardiovascular Disease, Hospital
R. Silvestrini, Perugia, Italy

The fixed-dose combination between telmisartan, an angiotensin II subtype 1 (AT₁) receptor antagonist, and the thiazide diuretic hydrochlorothiazide has the potential to seriously improve the percentage of hypertensive patients with adequately controlled blood pressure (BP). In Europe, two dose ratios between telmisartan and hydrochlorothiazide have been approved: 40/12.5mg and 80/12.5mg.

Telmisartan is an orally effective AT₁ receptor antagonist with an elimination half life of approximately 24 hours (i.e. the highest among available AT₁ receptor antagonists) which has been shown to be highly effective and well tolerated in the treatment of hypertension. The 12.5mg dose of hydrochlorothiazide probably provides the best balance between antihypertensive efficacy and tolerability, by combining an adequate BP-lowering effect with virtually absent metabolic changes.

Randomised, controlled trials have shown that the antihypertensive potency of the telmisartan/hydrochlorothiazide combination is superior to that of its single components. Complete BP control has been achieved in about 75% of subjects treated with the combination. Of particular note, ambulatory

monitoring of BP provided evidence of a sustained 24-hour effect, thereby supporting a once-daily dosing schedule.

The long duration of action of telmisartan may be advantageous in the comparison with different combinations between AT₁ antagonists and diuretics. For example, a study with 24-hour BP monitoring showed that the telmisartan/hydrochlorothiazide combination provided a significantly greater antihypertensive effect than the losartan/hydrochlorothiazide combination over the last 6 hours of the 24-hour period. The telmisartan/hydrochlorothiazide combination was generally well tolerated. Under the tolerability profile, an analysis of about 10 000 subjects showed that the incidence of treatment-related adverse effects was not dissimilar between placebo, telmisartan alone and telmisartan combined with hydrochlorothiazide.

The telmisartan/hydrochlorothiazide combination has been approved for clinical use in hypertensive subjects who have not responded to monotherapy. However, recent hypertension guidelines suggest that fixed drug combinations may be suitable for first-line treatment in many patients. Further studies in this context should be undertaken with the telmisartan/hydrochlorothiazide combination, particularly to assess reversal of target organ damage and major clinical complications of a hypertensive state. ▲