

Impact of Additive Use of Olmesartan in Patients With Chronic Heart Failure: The Supplemental Benefit of an Angiotensin Receptor Blocker in Hypertensive Patients With Stable Heart Failure Using Olmesartan (SUPPORT) Trial

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Background: We examined whether an additive treatment with an angiotensin receptor blocker (ARB), olmesartan, reduces the mortality and morbidity in hypertensive patients with chronic heart failure (CHF) treated with angiotensin converting enzyme (ACE) inhibitors, beta-blockers or both.

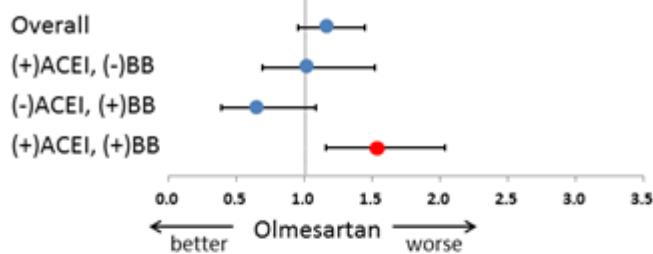
Methods: In a prospective randomized open-label blinded endpoint study, a total of 1,147 CHF patients with a history of hypertension (mean age 66 years, 75% male, median left ventricular ejection fraction 54%) were randomized to either the olmesartan group (N=574) or the control group (N=569) in the Supplemental Benefit of Angiotensin Receptor Blocker in Hypertensive Patients with Stable Heart Failure Using Olmesartan (SUPPORT) Trial. The primary endpoint was a composite of all-cause death, non-fatal acute myocardial infarction, non-fatal stroke and worsening heart failure requiring hospitalization.

Results: During a median follow-up of 4.4 years, the primary endpoint occurred in 192 patients (33%) in the olmesartan group and in 166 patients (29%) in the control group (hazard ratio (HR) 1.18; 95% confidence interval (CI), 0.96-1.46, P=0.112), while renal dysfunction developed more frequently in the olmesartan group than in the control group (Figure). Subgroup analysis revealed that additive use of olmesartan, when combined with both ACE inhibitors and beta-blockers, was associated with increased incidence of the primary endpoint, all-cause death and renal dysfunction, whereas it was associated with improved mortality when combined with beta-blockers alone, but not with ACE inhibitors alone (Figure).

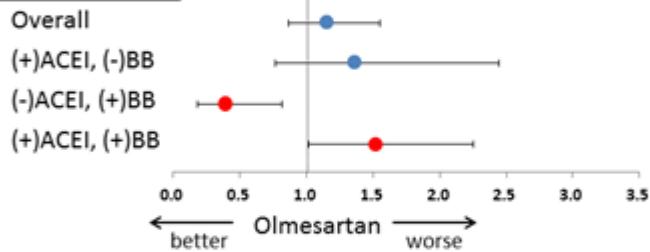
Conclusions: Additive use of olmesartan did not improve clinical outcomes but worsened renal function in hypertensive CHF patients treated with evidence-based medications. Particularly, the triple combination therapy with olmesartan, ACE inhibitors and beta-blockers was associated with increased adverse cardiac events.

Figure

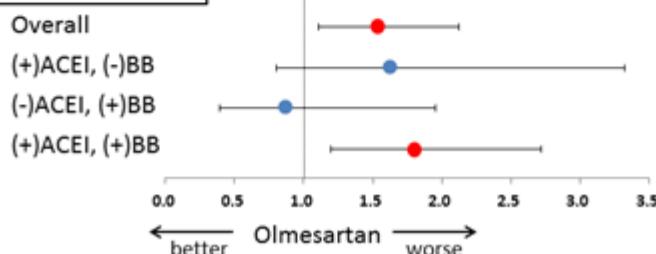
Primary endpoint



All-cause death



Renal dysfunction



ACEI, angiotensin converting enzyme inhibitor; BB, beta-blocker

Disclosure:

Y. Sakata: None. **N. Shiba:** None. **J. Takahashi:** None. **S. Miyata:** None. **K. Nohchioka:** None. **M. Miura:** None. **T. Takada:** None. **H. Shimokawa:** None.