

## Congestive Heart Failure

# Does aspirin use adversely influence intermediate-term postdischarge outcomes for hospitalized patients who are treated with angiotensin-converting enzyme inhibitors or angiotensin receptor blockers? Findings from Organized Program to Facilitate Life-Saving Treatment in Hospitalized Patients with Heart Failure (OPTIMIZE-HF)

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**Background** Conflicting data exist regarding a potential deleterious association between aspirin (ASA) and angiotensin-converting enzyme inhibitors (ACEIs) when used concurrently in patients with heart failure (HF). How such an interaction may be influenced by underlying etiology of HF and whether it extends to patients treated with angiotensin receptor blockers (ARBs), however, are not known.

**Methods** Eligible patients from the OPTIMIZE-HF registry were dichotomized into those with ischemic or nonischemic HF. Potential associations between ASA and ACEI or ARB use and 60- to 90-day postdischarge outcomes were assessed using Cox proportional and logistic regression modeling. Models were adjusted for factors known to influence the outcome of interest and by propensity score for ACEI or ARB prescription after an index HF admission.

**Results** Mortality was not increased (hazard ratio [95% CI]) when ASA was used in conjunction with ACEI (0.51 [0.29-0.87]) or ARB (0.29 [0.09-0.96]) in patients with ischemic or nonischemic (ACEI 0.71 [0.42-1.21], ARB 1.42 [0.74-2.74]) HF. Regression model parameter estimates trended toward harm reduction, but interaction terms for mortality and a composite of mortality or rehospitalization were nonsignificant ( $P$  for all  $>.05$ ).

**Conclusions** When combined with ACEI or ARB, ASA had no demonstrable adverse effect on intermediate-term postdischarge outcomes for patients with ischemic or nonischemic HF. ([Am Heart J 2010;159:222-30.e2.](#))

Aspirin (ASA) and angiotensin-converting enzyme inhibitors (ACEIs) are frequently used in patients with heart failure (HF). Several animal and human studies, however, have reported a potential deleterious association when these 2 agents are used in conjunction.<sup>1-7</sup> The mechanism for this hypothesized adverse interac-

tion is thought to involve disparate effects at the prostaglandin level, with ASA causing an attenuation of ACEI-mediated bradykinin potentiation.<sup>7-10</sup> Theoretical consequences of this include a reduction of bradykinin-induced systemic arterial vasodilatation and a loss of beneficial bradykinin-related cardiac remodeling effect

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