

## HEART FAILURE MRA USE IN PATIENTS WITH HFREF

Investigators in a registry study have assessed mineralocorticoid-receptor antagonist (MRA) use in a 'real-world' population of patients who have heart failure with reduced ejection fraction (HFREF). In their study report in *JAMA*, Hernandez *et al.* point out that "despite [robust clinical trial] findings and subsequent class I guideline recommendations, the use of [MRA] therapy remains lower than expected". The investigators speculate that the "slow and varied adoption of [MRAs] in clinical practice may be due, in part, to uncertainty about their effectiveness and safety outside clinical trials". Indeed, in the population assessed in the registry study, no MRA-associated mortality benefit was found, but safety concerns were noted.

Data were assessed for 5,887 individuals, of whom 1,070 had received a prescription for an MRA at hospital discharge, and 4,817 had not. The study cohort were aged  $\geq 65$  years, had been hospitalized for heart failure and were alive at discharge from hospital in 2005–2009, had a left ventricular ejection fraction  $\leq 35\%$  or a qualitative description of moderate or severe left ventricular systolic dysfunction, had a serum creatinine level  $\leq 2.5$  mg/dl in men or  $\leq 2.0$  mg/dl in women at admission, and had not used an MRA before the index hospitalization.

At 3 years, all-cause mortality and the rate of readmission for cardiovascular reasons were similar between the two treatment groups. The cumulative incidence of first readmission for heart failure was lower for the MRA group (adjusted HR 0.88, 95% CI 0.78–0.99,  $P=0.04$ ). Notably, however, readmission associated with hyperkalaemia had occurred more often in the MRA group at 30 days (adjusted HR 2.51, 95% CI 1.45–4.34,  $P=0.001$ ) and at 1 year (adjusted HR 1.48, 95% CI 1.20–1.84,  $P<0.001$ ).

The investigators suggest that "rigorous protocols for [MRA] therapy could be established to ensure appropriate patient selection, correct dosing, and early follow-up visits to screen for hyperkalaemia". They believe that these protocols "may help to ensure that the effectiveness of this therapy in clinical practice approaches the efficacy achieved in clinical trials".

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**Original article** Hernandez, A. F. *et al.* Associations between aldosterone antagonist therapy and risks of mortality and readmission among patients with heart failure and reduced ejection fraction. *JAMA* 308, 2097–2107 (2012)