Antimineralocorticoids offer no benefit in heart attack patients without heart failure

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Heart attack patients without heart failure derive no benefit from the addition of mineralocortoid receptor antagonists (MRA), to standard therapy, results of the ALBATROSS study show.

The Hot Line findings, reported at ESC Congress 2015, "do not warrant the extension of MRA use" to such patients, said the study's principal investigator Gilles Montalescot, MD, PhD.

MRAs, also known as aldosterone antagonists, inhibit sodium retention and excretion of potassium and magnesium, and therefore "there is an indication for MRA therapy in MI patients with heart failure," explained Professor Montalescot, from the Institut de Cardiologie, Centre Hospitalier Universitaire Pitié-Salpêtri?re, in Paris, France.

"Our results suggest that heart failure is the main factor for the favorable effect of MRAs previously observed in MI patients. In MI patients without heart failure we observed no benefit. We suggest to respect the current indication driven by heart failure."

But there is a silver lining to the ALBATROSS findings, which do suggest "a potential mortality benefit" of MRA treatment among a specific group of patients who have ST-segment elevation myocardial infarction (STEMI), although this result "must be interpreted with great caution," warned Professor Montalescot.

"It is an intriguing, hypothesis-generating finding which needs to be

examined further in adequately-sized trials specifically dedicated to STEMI patients," he said.

While the MRAs spironolactone and eplerenone have both been shown to reduce mortality in heart attack patients with congestive heart failure, very little is known about this treatment in the absence of heart failure - the more common scenario among patients who are hospitalised for myocardial infarction (MI).

Therefore, ALBATROSS (which stands for Aldosterone Lethal effects Blockade in Acute myocardial infarction Treated with or without Reperfusion to improve Outcome and Survival at Six months follow-up) investigated the effects of prolonged MRA therapy initiated early after the onset of MI in a broad population, 92% of whom presented without heart failure.

The study included 1622 patients randomly assigned to standard therapy alone (n=801) or with the addition of MRA therapy (n=802).

The randomisation took place as early as possible, including in ambulances, to allow for early treatment.Standard therapy included in-hospital medications as well as procedures such as coronary angiography, percutaneous coronary intervention and coronary bypass grafting.

The MRA regimen consisted of an intravenous bolus of potassium canrenoate (200 mg) followed by an initial 25mg of oral spironolactone within 12 to 24 hours, and then daily for 6 months. Spironolactone was not given if either potassium or creatinine concentrations were uncontrolled (> 5* 5 mmol.L-1 and >220 µmol.L-1 respectively).

After a median follow-up of 118 days, the primary outcome - a composite of death, resuscitated cardiac arrest, significant ventricular arrhythmia, indication for an implantable defibrillator or new or

worsening heart failure at 6-months - occurred at a similar rate in the treatment and control groups (11* 8% and 12* 2% respectively, hazard ratio [HR] 0* 97).

However, for the outcome of mortality alone, MRA reduced the odds of death in the subgroup of STEMI (n=1229, HR 0* 20, 95% CI, 0.06 to 0.70), but not NSTEMI patients.

Caution in interpreting this finding is warranted since the study was not designed to specifically assess STEMI patients, said Professor Montalescot, but he added that a potential benefit of early MR therapy is plausible in STEMI patients, who are "a more homogeneous patient population with more acute and severe myocardial ischemia than NSTEMI".

The ALBATROSS study, which is the largest study of MRA therapy in MI patients without heart failure, also highlights the relative safety of the MRA regimen used. Adverse events were equally distributed between the two study groups and although rates of hyperkalemia (high plasma potassium) were more common in the MRA group than in the control group, they were lower than what has been previously reported, he concluded.

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