



was no significant difference between sitagliptin and placebo in the time to first hospitalization for HF (HR, 1.00; 95% CI, 0.84 to 1.20; $P = .95$). In addition, no significant risk was noted in selected subgroups of age, sex, body mass index, diabetes duration, HbA_{1c}, insulin use, renal function, prior coronary artery disease, prior HF, and HF severity.

There were also no significant differences in other HF-related outcomes, such as hospitalization for HF or CV death (HR, 1.02; 95% CI, 0.90 to 1.14; $P = .81$), hospitalization for HF or all-cause death (HR, 1.00; 95% CI, 0.90 to 1.11; $P = .93$), and total hospitalization for HF events (first plus recurrent; HR, 1.00; 95% CI, 0.80 to 1.25; $P = .996$). In terms of HF-related outcomes in patients with prior HF at baseline (sitagliptin, $n = 1303$; placebo, $n = 1340$), there were no significant differences between treatment groups in hospitalization for HF (HR, 1.03; 95% CI, 0.77 to 1.36; $P = .86$), CV death (HR, 0.91; 95% CI, 0.71 to 1.17; $P = .46$), hospitalization for HF or CV death (HR, 0.96; 95% CI, 0.79 to 1.18; $P = .71$), or all-cause death (HR, 0.92; 95% CI, 0.75 to 1.14; $P = .46$).

Dr Van de Werf concluded that this prespecified analysis of the TECOS database does not suggest an increased risk of HF or related adverse events with sitagliptin in patients with T2DM and prevalent CV disease. These findings support the use of sitagliptin in these patients without concerns of worsening HF.

ARTS-HF Study: Finerenone Is Safe and Effective for Patients With HFrEF

Written by Alla Zarifyan

Gerasimos Filippatos, MD, Athens University Hospital Attikon, Athens, Greece, presented results of the ARTS-HF study [Pitt B et al. *Eur J Heart Fail.* 2015], demonstrating that finerenone was well tolerated and had a comparable efficacy with eplerenone in reducing N-terminal pro-brain natriuretic peptide (NT-proBNP) and a greater efficacy in reducing the incidence of the clinical composite end point of all-cause death, cardiovascular (CV) hospitalization, or emergency presentation for worsening chronic heart failure (CHF) in patients with heart failure with reduced ejection fraction (HFrEF).

Mineralocorticoid receptor antagonists (MRA) such as spironolactone and eplerenone are recommended by treatment guidelines [Yancy CW et al. *Circulation.* 2013; McMurray JJ et al. *Eur Heart J.* 2012], as they reduce mortality and hospitalizations in patients with HFrEF. However, they may be underused because of the fear of inducing hyperkalemia or worsening renal function in high-risk patients, and despite the current treatments, mortality and morbidity remains high, especially after hospitalization for

worsening heart failure. Finerenone is a novel nonsteroidal MRA that has greater receptor selectivity than spironolactone and better receptor affinity than eplerenone in vitro.

ARTS-HF was a randomized, double-blind, active-comparator-controlled, multicenter, phase 2b dose-finding study with an objective to compare the safety and efficacy of different once-daily oral doses of finerenone with eplerenone in patients with worsening chronic HFrEF and type 2 diabetes or chronic kidney disease (CKD). The primary end point was the proportion of patients with a relative decrease in NT-proBNP of >30% from baseline to day 90. The exploratory end points included the clinical composite end point of death from any cause, CV hospitalization, or emergency presentation for worsening CHF.

A total of 1055 patients were enrolled and randomized to eplerenone ($n = 221$) or to 5 different finerenone doses: 2.5 to 5 mg ($n = 172$), 5 to 10 mg ($n = 163$), 7.5 to 15 mg ($n = 167$), 10 to 20 mg ($n = 169$), and 15 to 20 mg ($n = 163$). The percentage of patients who had an NT-proBNP decrease of >30% at day 90 compared with baseline did not differ substantially between each treatment group, with reductions ranging from 30.9% to 38.8%.

The incidence of the exploratory clinical composite at day 90 was lower with all finerenone doses (except 2.5–5 mg) than with eplerenone, with the lowest incidence observed in the group treated with finerenone 10–20 mg. The risk of all-cause death was reduced more by finerenone 10–20 mg vs eplerenone (HR, 0.14; 95% CI, 0.02 to 1.07), and the risk of CV hospitalization was also lowered more significantly by finerenone 10–20 mg (HR, 0.56; 95% CI, 0.34 to 0.93). Health-related quality of life was improved comparably in all treatment groups.

The incidence of any adverse event (AE), serious AEs, and AEs of special interest was similar in all treatment groups. The mean change in the potassium levels from baseline was statistically significantly lower with the 3 lowest finerenone doses compared with eplerenone.

Prof Filippatos concluded that in patients with HFrEF, finerenone had a comparable efficacy to eplerenone in reducing NT-proBNP and a greater efficacy in reducing the incidence of the clinical composite end point of all-cause death, CV hospitalization, or emergency presentation for worsening CHF.

Bayer says it plans to move ahead with phase 3 trials with finerenone, including a study called FINESSE-HF in more than 3000 HF patients with reduced ejection fraction and type 2 diabetes and/or chronic kidney disease. It also plans to conduct the FIGARO-DKD and FIDELIO-DKD trials in patients with diabetic kidney disease.

Reviewer comment: We need to be cautious in our interpretation of this underpowered exploratory trial. The overall dose response of finerenone is somewhat inconsistent.