Medicine trial meets primary endpoint in patients with chronic kidney disease

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Dapagliflozin reduces the risk of kidney failure, death from cardiovascular causes or heart failure hospitalization, and all-cause mortality in chronic kidney disease patients with or without type 2 diabetes. That's the main result of the DAPA-CKD trial presented in a Hot Line session today at ESC Congress 2020.

The DAPA-CKD trial tested the hypothesis that treatment with dapagliflozin is superior to placebo in reducing the risk of renal and cardiovascular events in patients with chronic kidney disease (with or without type 2 diabetes) already receiving a stable dose of either an angiotensin-converting enzyme (ACE) inhibitor or an angiotensin receptor blocker (ARB) as background therapy.

The primary composite endpoint was worsening kidney function (defined as >50% sustained decline in estimated glomerular filtration rate [eGFR] or onset of end-stage kidney disease), or death due to kidney disease or cardiovascular disease.

The secondary endpoints were, in hierarchical order: 1) a composite endpoint of worsening kidney function (defined as >50% sustained decline in eGFR or onset of end-stage kidney disease), or death from kidney failure? 2) a composite endpoint of hospitalization for heart failure or cardiovascular death? and 3) all-cause mortality.

The trial enrolled 4,304 patients, aged 18 years and over, from 386 centers in 21 countries. All patients had an eGFR ?25 and ?75 mL/min/1.73 m^2; urinary albumin to creatinine ratio between ?200 mg/g and ?5000 mg/g; and were on a stable, maximum tolerated dose of an ACE inhibitor or ARB (unless contraindicated) for at least four weeks.

Patients were randomly allocated to dapagliflozin 10 mg or placebo once daily in addition to standard of care (i.e. an ACE inhibitor or ARB). The average age of participants was 61.8 years and 66.9% were male. A total of 2,906 (67.5%) patients had type 2 diabetes.

During a median follow-up of 2.4 years, there were 197 primary endpoint events with dapagliflozin and 312 with placebo. The hazard ratio (HR) for the primary endpoint was 0.61 (95% confidence interval [CI) 0.51–0.72? p=0.000000028). The benefit of dapagliflozin on the primary endpoint was consistent in patients with and without type 2 diabetes.

Dapagliflozin reduced all three secondary endpoints compared to placebo. The HRs were: 1) worsening renal function or death from kidney failure 0.56 (95% CI 0.45–0.68? p