

Treating Hypertension in CKD: Interpreting ALLHAT

Background

The goals of antihypertensive therapy in patients with chronic kidney disease (CKD) are to lower blood pressure, slow the progression of kidney disease and to reduce the risk of cardiovascular disease (CVD).

Many studies demonstrate that antihypertensive regimens including an ACE inhibitor or ARB, usually in combination with a diuretic, are more effective in slowing progression of CKD than other antihypertensive regimens.

The ALLHAT Study (JAMA. 2002;288:2981-2997)

The Antihypertensive and Lipid Lowering Treatment to Prevent Heart Attack Trial (ALLHAT) did not confirm these earlier studies.

ALLHAT, a randomized controlled trial, compared calcium channel blockers and ACE inhibitors to thiazide-type diuretics to reduce risk of CVD. ALLHAT concluded that thiazide-type diuretics are superior in preventing one of more major forms of CVD and are less expensive. ALLHAT Investigators recommend that diuretics should be preferred for first step antihypertensive therapy.

National Kidney Foundation and American Society of Nephrology Note Limitations in Applying ALLHAT to Patients with Chronic Kidney Disease

- ALLHAT's enrolled study population was selected for higher risk of additional CVD events than kidney failure.
- ACE inhibitors were given without diuretics.
- Proteinuria was not measured.

National Kidney Foundation's and American Society of Nephrology's Recommendations on Treating Hypertension in Chronic Kidney Disease

- The goals of antihypertensive therapy in CKD are to lower blood pressure, slow the progression of kidney disease and reduce the risk of CVD.
- Patients with CKD should be considered in the highest risk group for implementation of recommendations for antihypertensive therapy to reduce CVD risk.
- ALLHAT findings do not invalidate results of prior studies showing beneficial effects of inhibition of the renin-angiotensin system in slowing progression of kidney disease.
- ACE inhibitors and/or ARBs remain "preferred agents" for treatment of hypertension in most patients with diabetic kidney disease and non-diabetic kidney diseases with proteinuria.
- Target blood pressure for patients with CKD should be <130/80 mm Hg.
- Most patients with CKD require more than one antihypertensive agent for blood pressure control.
- Most patients with CKD should receive ACE inhibitors and/or ARBs in combination with diuretics.
- Many patients with advanced CKD require a loop diuretic rather than a thiazide diuretic.
- This regimen is effective in lowering blood pressure, slowing progression of kidney disease and reducing the risk of CVD.
- If there is a conflict between the goals of slowing progression of CKD and CVD risk reduction, individual decision-making is recommended, based on risk stratification.