Clinical Nephrology: Summary of Recommendation

Strategies for Combination Therapy in Hypertension

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Hypertension is present in approximately 80% of patients with chronic kidney disease (CKD) and contributes to progression of kidney disease toward end stage (ESRD) as well as to cardiovascular events such as heart attack and stroke. Treatment of hypertension is therefore imperative. We agree with the 2011 KDIGO clinical practice guideline for management of blood pressure in CKD that goal blood pressure depends upon the degree of proteinuria. In patients with proteinuric CKD, the blood pressure should be lowered to less than 130/80 mmHg. In patients with nonproteinuric CKD, the blood pressure should be lowered to less than 140/90 mmHg.

Attainment of goal blood pressure in patients with CKD typically requires multidrug therapy. As with goal blood pressure, the choice of agent depends in part upon whether or not the patients have proteinuria. High quality evidence favors the use of an ACE inhibitor (ACEI) or angiotensin II receptor blocker (ARB) as first-line therapy in patients with proteinuric CKD, in addition to lowering the blood pressure, these drugs slow the rate of progression of CKD. In patients with CKD who have proteinuria and edema, initial therapy usually consists of both an angiotensin inhibitor and a loop diuretic. The use of a diuretic may also restore the antiproteinuric effect of ACEI. If further antihypertensive therapy is required, we suggest a non-dihydropyridine calcium channel blocker (CCB) since these drugs also lower proteinuria.

In patients with nonproteinuric CKD with edema, we prefer initial therapy with a loop diuretic. Once the edema is controlled, an angiotensin inhibitor or a dihydropyridine CCB can be added. In patients without edema, we start with an angiotensin inhibitor, and then add a dihydropyridine CCB as second-line therapy. If needed, we suggest adding a diuretic as third-line therapy. An aldosterone antagonist is an effective fourth-line agent for the treatment of resistant hypertension. In addition to reducing blood pressure, aldosterone antagonists also have antiproteinuric properties that may be associated with a slower decline in renal function.

Treatment of even mild hypertension is important in patients with CKD to protect against both progressive renal function loss and cardiovascular disease, the incidence of which is increased with mild to moderate CKD.

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