COMMENTS AND RESPONSES

Primary Aldosteronism in Diabetic Subjects With Resistant Hypertension

Response to Umpierrez et al.

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We read with interest the article by Umpierrez et al. in a recent issue of *Diabetes Care* (1). Primary aldosteronism, a condition associated with suppressed renin and angiotensin levels, is known to be associated with a higher incidence of cardiovascular complications and increased mortality compared with that in patients with comparable blood pressure levels due to essential hypertension. On the other hand, activation of the renin-angiotensin system, manifesting as high levels of renin and angiotensin II and activation of the AT1 receptor, is associated with the metabolic syndrome and its macro- and microvascular complications (2,3). In the present study, the authors reported significantly lower serum creatinine among diabetic subjects who had primary aldosteronism in comparison with those who had comparable blood pressure levels due to essential hypertension. Whether differences in the same direction were also found with other markers of cardiovascular complications such as albuminuria, left ventricular hypertrophy, and cardiovascular mortality would be of significant therapeutic implications. In light of these preliminary findings, we believe that the cardiovascular effects of specific treatment for primary aldosteronism in this group of patients should be carefully monitored.

The point of contention is the use of a plasma aldosterone–to–plasma renin activity ratio of >30 ng $\cdot$ ml^{-1} $\cdot$ h^{-1} in screening for primary aldosteronism or the use of a plasma aldosterone of $\geq$5.0 ng/dl after intravenous salt loading in diagnosing this condition in this patient population. To our knowledge, these ratios have not been validated among patients with diabetes or obesity. Given the activation of the renin-angiotensin axis in these conditions, we are concerned that these cutoff values may yield sensitivities and specificities that differ from patient populations from which they were originally derived.

Adrenal adenoma is known to be the main cause of primary aldosteronism among patients investigated because of resistant hypertension (4), whereas adrenal hyperplasia is the main cause of primary aldosteronism among unselected patients with hypertension (5). Since the pathophyisology and treatment for these two etiologies are different, we are interested to know the etiology of primary aldosteronism in these 14 cases.

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