Treating Volume Vs. Renin Hypertension

PJR: We don’t have enough space left to go into how specific medications are selected based on renin profiling or how to start treatment if renin testing is not readily available. This information is elegantly explained in your recent book* (see below) but perhaps you could give us a brief summary.

JHL: Yes, essentially, salt-volume (V) hypertension is always associated with low ambulatory plasma renin levels (PRA values less than 0.65). This occurs in about a third of patients with high blood pressure. It is correctly treated with any one of the natriuretic or anti-volume V drugs such as spiro lactone, a thiazide diuretic, a calcium channel blocker or an alpha blocker. Renin-angiotensin (R) mediated vasoconstrictor hypertension is twice as common and resembles a forme fruste of fatal malignant hypertension. It is thus much more apt to be associated with albeit milder, and more gradually occurring, fatal heart attacks, strokes, heart failure or kidney failure.

These (R) hypertension patients should instead be treated primarily with any one of the three types of antirenin R drugs, an angiotensin converting enzyme inhibitor (ACE), angiotensin receptor blocker (ARB) or a beta blocker. The bottom line is that blood pressures for all hypertensives can be controlled with the Laragh Method using one drug for life in over half of both (V) and (R) patients, or in sum, for at least 60-80% of the total group. As you noted, this is in sharp contrast to the expensive and unpleasant polypharmacy approach promoted by JNC-VII. The result is that most such patients are denied the precious opportunity for a lifetime of monotherapy with the correct drug type but are condemned to taking 2-4 drugs. This increases costs and side effects while providing less net benefit as well as diminished productivity and quality of life.

It is also possible to bypass renin testing by using single file trials of a V and then an R medication to identify which type will correct the hypertension. In addition, you delete drugs that don’t work rather than always continuing diuretics as JNC-VII mandates.

About 20% of the whole may need both a V and an R drug but that’s still highly preferable to the JNC-VII protocol that starts with a thiazide diuretic and keeps piling on other drugs until blood pressure is controlled. Since diuretics are not only not indicated but can also raise pressure in the 2 out of 3 patients with high renin R hypertension, most of these will have to keep adding other drugs to achieve poorer results.

PJR: I would suspect that placing everyone on diuretics perpetually would lead to potassium depletion, cardiac arrhythmias and a significant increase in diabetes. It may also deny high renin patients protection from fatal cardiovascular complications that antirenin medications do provide.

JHL: You are absolutely correct and what is both impressive as well as alarming is the underappreciated harm that can result from traditional diuretic therapy. Hygroton produced over an 11% incidence of real and permanent diabetes in less than 5 years in the ALLHAT trial, which suggests at least 22% after 10 years and even more later on. In other studies, thiazides have been shown to regularly produce muscle potassium and magnesium depletion that leads to cardiac arrhythmias, muscle weakness, electrocardiographic changes and thence to fatal cardiovascular complications. The good news is that all of these complications can be avoided by using spiro lactone instead to correct sodium-volume related hypertension without causing diabetes or depletion of potassium and magnesium.

Our renin hypothesis was confirmed in over 120,000 patients who were studied following an acute myocardial infarction in various large clinical trials. Only those receiving an antirenin R drug had a consistent reduction in recurrent heart attack, congestive heart failure and sudden death. This shows that blocking the presence or action of angiotensin II by giving the correct antirenin R drug to this very vulnerable group of patients can prevent fatal plasma renin vasculotoxicity. As emphasized, R drugs do not help low renin hypertensives, who require and often have dramatic relief from V drug salt depletion. Conversely, V drugs are ineffective and often harmful if given to renin hypertensive patients.
