Aliskiren Effective for Lowering Blood Pressure

BY MITCHEL L. ZOLER
Philadelphia Bureau

NEW ORLEANS — Monotherapy with the direct renin inhibitor aliskiren was more effective at lowering blood pressure in hypertensive patients with metabolic syndrome than was treatment with the angiotensin-receptor blocker irbesartan in a randomized study with 138 evaluable patients.

Aliskiren monotherapy also resulted in a significantly higher percentage of patients reaching their goal blood pressure, compared with those treated with irbesartan, Dr. Wilhelm Krone and his associates reported in a poster at the annual scientific sessions of the American Heart Association.

"Chronic activation of the renin system has been implicated in many of the key features of metabolic syndrome, including insulin resistance and abdominal obesity," Dr. Krone and his associates wrote in their poster.

"We hypothesize that the greater blood pressure–lowering effects by aliskiren relative to irbesartan in metabolic syndrome may be the result of more complete renin system inhibition by aliskiren in the kidney and/or adipose tissue," said Dr. Krone, professor and chairman of the second department of internal medicine at the University of Cologne (Germany), and his associates. "Adipocytes may contribute to blood pressure elevation in obesity-related hypertension through the generation of angiotensin II."

The researchers also noted that metabolic syndrome is prevalent among patients with hypertension, occurring in more than a third of hypertensive patients.

The study was supported by Novartis, which markets aliskiren (Tekturna).

The researchers enrolled patients aged 40-75 who had been diagnosed with metabolic syndrome. They all had essential hypertension, with a systolic pressure of at least 130 mm Hg or a diastolic pressure of at least 85 mm Hg.

All patients also had a waist circumference that met the definition for metabolic syndrome: at least 102 cm in men and at least 88 cm in women. In addition, patients had to either have a plasma triglyceride level of more than 150 mg/dL or a fasting plasma glucose level between 100.8 mg/dL and 126 mg/dL.

The patients enrolled had an average age of 59 years, 65% were men, and 96% were white. Sixty-six were randomized to treatment with aliskiren and 75 were assigned to treatment with irbesartan. The average blood pressure at baseline was 156/94 mm Hg in the aliskiren group and 154/92 in the irbesartan group.

During the first 2 weeks of treatment, patients received either 150 mg of aliskiren once daily or 150 mg irbesartan once daily. After 2 weeks, the daily dosage in both arms was doubled to 300 mg once daily. Patients were then maintained on the higher dosage for an additional 10 weeks.

After a total of 12 weeks of treatment, blood pressure was reduced by an average of 13.8/7.1 mm Hg in the 66 aliskiren-treated patients who completed the study, and by an average of 5.8/2.8 mm Hg among the 72 irbesartan-treated patients who finished the study. The differences in average reduction in both systolic and diastolic blood pressure were statistically significant.

The percent of patients reaching the goal blood pressure of less than 135/85 mm Hg was 29% in the aliskiren group and 17% in the irbesartan group, a statistically significant difference.

Both treatments were generally well tolerated, with no serious adverse events in either study arm. Neither drug was associated with a significant change in blood glucose or lipid profile, and neither drug led to hyperkalemia or an increase in serum creatinine or blood urea nitrogen.

The study also tracked changes in the levels of several biomarkers of inflammation, thrombosis, fibrosis, and oxidative state.

No differences were seen between the two drugs for any of these markers, except that aliskiren treatment led to greater reductions of renin-system biomarkers, and irbesartan increased the level of eotaxin, an inflammatory cytokine. ■