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Combination Therapy to Lower Blood Pressure

Having either high blood pressure or diabetes increases your likelihood of developing heart and vascular diseases. If you have both of these conditions, your risk of complications is even higher, making control of your blood pressure even more important. That is why the American Diabetes Association and other organizations have set a blood pressure goal of 130/80 mm Hg for people with diabetes. Unfortunately, fewer than 1 out of 3 patients with diabetes reach this goal. In fact, a combination of several medications is often needed to reach the goal.

When blood pressure–lowering drugs are combined in therapy, medicines that lower blood pressure by different mechanisms should be used to achieve the best results. Quinapril (Accupril) and losartan (Cozaar), although slightly different from each other, both lower blood pressure by interrupting a cascade of hormonal events that cause blood vessels to narrow and fluid to be retained in the body. In contrast, amlodipine (Norvasc) lowers blood pressure by preventing calcium from entering blood vessel cells. Calcium is necessary for blood vessels to contract and narrow, so without calcium, blood vessels are relaxed and blood flows more easily.

A recent study looked at the effects of these 2 different types of medications on blood pressure. At 75 different centers across the United States, 739 patients with high blood pressure and diabetes were assigned to receive 1 of 4 possible treatments: quinapril plus amlodipine, quinapril plus placebo, losartan plus amlodipine, or losartan plus placebo.

After 22 weeks of treatment, patients taking either quinapril or losartan in combination with amlodipine had dramatic improvements in blood pressure. Patients with high blood pressure and diabetes were nearly 3 times more

FOR MORE INFORMATION

American Diabetes Association
www.diabetes.org/main/uedocuments/HighBloodPressure-English.pdf

National Institute of Diabetes and Digestive and Kidney Diseases
http://kidney.niddk.nih.gov/kudiseases/pubs/chronickidneydiseases/

National Kidney Disease Education Program
www.nkdep.nih.gov/resources/make_the_kidney_connection.htm

Based on "Evaluation of Blood Pressure Control with Amlodipine Add-on Therapy in Patients with Hypertension and Diabetes: Results of the Amlodipine Diabetic Hypertension Efficacy Response Evaluation Trial (ADHT)" by Robert Kloner, Joel Neutel, Eli Roth, and colleagues, ***The Annals of Pharmacotherapy***, **November 2008**, http://dx.doi.org/10.1345/aph.1L076.

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likely to reach their blood pressure goal when amlodipine was added to therapy. Amlodipine does not have any unwanted effects on blood sugar or lipids and may have some benefits for the kidneys, too.

It is not uncommon for patients to need combinations of blood pressure–lowering medicines to reach their blood pressure goals. This is especially true for patients with diabetes and high blood pressure, who often have difficulty reaching the recommended blood pressure using a single drug. Although this recent study was of relatively short duration and further studies are needed to assess long term results, this research suggests that amlodipine can enhance blood pressure–lowering therapies in patients with diabetes.