

VitalNews

THE QUARTERLY NEWSLETTER OF VITALREMEDYMD
YOUR RESOURCE FOR EDUCATION AND THE HIGHEST QUALITY MEDICALLY DIRECTED VITAMINS AND SUPPLEMENTS®

APRIL 2007

The Kidneys are a pair of bean-shaped organs that lie on either side of your spine in the lower middle of your back.

WRITTEN BY LAURA DENSON BAUM, M.D.

The kidneys function to filter your blood - removing excess water and waste products resulting from regular metabolic processes that occur in the body as well as from foods, drugs, and additives. Each kidney is only about the size of your fist, but contains approximately one million filtering units called nephrons. Healthy kidneys process about 200 liters of blood each day, producing about 2 liters of urine. Our kidneys also play a major role in regulating levels of minerals in the blood including

calcium, sodium, and potassium. And finally, our kidneys produce hormones that have important functions elsewhere in the body: erythropoietin stimulates bone marrow to produce red blood cells, calcitriol regulates absorption of calcium and phosphorus from foods promoting formation of strong bones, and renin regulates blood volume and blood pressure.

Without getting any more technical, suffice it to say that the kidneys are vital to our body's proper function and health. So what happens when the kidneys fail? Working backwards, you can now answer that question: water, waste, and toxic substances build up in blood that is no longer properly filtered by the kidneys, and anemia, bone disease, and high blood pressure will develop as a consequence of impaired hormone production. Because the kidneys are able to compensate well for problems in their function, chronic kidney disease can progress slowly over a period of months to years without symptoms; only lab tests would detect the developing problem. Subtle, nonspecific symptoms might include weakness (anemia), loss of appetite, nausea and vomiting, swelling of the legs and puffiness around the eyes (fluid retention), numbness in the feet or hands, and shortness of breath. Discuss any changes you may have noticed with your physician. If you have diabetes or high blood pressure or have a family history of kidney disease, you are at increased risk and should be routinely tested for development of kidney disease.

Chronic kidney disease (CKD) is a very serious medical problem affecting 20 million Americans or one in nine adults. It can be caused by a disease that occurs within the kidney, like cancer or polycystic kidney disease, or it can result from a disease elsewhere in the body that injures the kidneys or prevents them from working. Diabetes is the number one cause of chronic kidney disease accounting for about 45% of cases, and high blood pressure or hypertension is number two. Patients with CKD suffer from gradual and usually permanent loss of kidney function over a period of months to years. Since there is no cure for chronic kidney disease, early detection is vital followed by strategies to prevent the progression of kidney disease to kidney failure. CKD is divided into 5 stages of increasing severity, based on the GFR (glomerular filtration rate) which is a measure of the ability of the nephrons to filter blood. Stage 5 represents chronic kidney failure, also referred to as end-stage renal disease, and denotes near total loss of kidney function at which point patients require dialysis or a kidney transplant to stay alive.



inside

Q&A

The Kidneys
Ask an Expert

Dr. Ira Lazar
Clinical
Nephrologist

Intelligent
Indulgences

LAURA D. BAUM, M.D.
Editor in Chief

SETH J. BAUM, M.D., F.A.C.C.
Founder and Director
of Clinical Development

Q&A

The Kidneys

Ask an Expert...

We had the pleasure of sitting down with Dr. Ira Lazar who is a clinical Nephrologist in Boca Raton, Florida. Dr. Lazar answered a number of our questions relating to diagnosis and treatment of kidney disease.

- Q: Are there any symptoms that would alert me to the fact that I am developing kidney disease?
- A: Generally, no. Kidney disease is usually discovered because someone is being evaluated for high blood pressure, or because they are diabetic. Both of these conditions put you at a higher risk for developing kidney disease. It is often discovered on a routine laboratory blood test or urinalysis done by the internist.
- Q: What do you look for on a routine lab test that might indicate kidney disease?
- A: Typically it would be the blood urea nitrogen (BUN) and creatinine. On a urine test, abnormal amounts of blood or protein would indicate a problem.
- Q: What is the best way to detect and monitor kidney disease?
- A: Urine, blood, and imaging tests, are often used together to understand the nature and extent of the kidney disease. The urine creatinine and serum creatinine plus volume of urine can be used to calculate the amount of kidney function expressed as the glomerular filtration rate (GFR). Patients are divided into five stages of chronic kidney disease based on their GFR.
- Q: What is diabetes? How does diabetes lead to kidney disease?
- A: Diabetes is a disease in which the body loses its ability to keep blood sugar under control, either because the body does not produce insulin or because the body becomes resistant to the effects of insulin. When blood sugar levels remain abnormally high for a period of years this will damage many parts of the body, including the heart, blood vessels, eyes, nerves, and kidneys. Initially, the kidneys will work harder to filter increased amounts of blood sent to the kidneys in diabetics. This causes the pressure in the kidneys to get high and protein will spill into the urine. If this situation is not rectified, over a period of years the kidneys slowly lose their ability to clean and filter the blood and the GFR declines.
- Q: What is the relationship between high blood pressure and kidney disease?
- A: High blood pressure or hypertension occurs when the pressure of your blood against the walls of your blood vessels increases; it is the number two cause of chronic kidney disease, and a leading cause of heart attacks and strokes. Hypertension destroys the microcirculation of the kidney which leads to fibrosis and scarring of blood vessels in the kidney and ultimately a decrease in glomerular filtration. On the flip side, CKD can also cause high blood pressure.
- Q: Once I know I have kidney disease, how can I work with my physician to stop or slow progression?
- A: It is very important to evaluate and treat any related medical conditions such as diabetes or hypertension. If you are diabetic, we want to see that your glucose levels are strictly controlled. If you are hypertensive, we

"...not all patients with CKD should take the same multi-vitamin."

A Note about Nutritional Supplements:

Patients with Chronic Kidney Disease (CKD) represent a unique population with regard to nutritional requirements and appropriate supplementation. For example, the heart-healthy omega-3s found in VRMD's VitalOils™ are often recommended because of the increased incidence of heart disease and elevated triglycerides in patients with CKD. All patients with CKD should also take a daily multi-vitamin, BUT not all patients with CKD should take the same multi-vitamin. *Your* specific needs are dictated by *your* kidneys' ability to filter, or your stage of CKD. In an effort to meet your specific needs, VRMD is designing a suite of medically directed nutritional supplements just for patients with CKD (it will include three different multi-vitamins as well as several other products to assist you). Your physician can direct you to the appropriate supplements designed for you. We are also putting the final touches on a unique high protein product for patients who are already on dialysis.

Look for our suite of CKD products: VitalKidneys™ available this summer

intelligent indulgences

want strict blood pressure control. We look for the need to intervene to normalize cholesterol and triglycerides as there is a high incidence of heart disease associated with CKD. Diet and exercise play a very important role as well; lose excess weight and if you smoke, stop.

Q: Is there a special diet one should follow to protect against kidney disease? Are there nutrients/foods I should avoid/include?

A: As we all know nutrition plays an important role in our health. If you have diabetes it is even more important to avoid overly processed foods and refined carbohydrates and choose carbohydrate foods with a lower glycemic index (that is, those that cause blood glucose to rise more slowly, requiring less insulin). Foods with low glycemic indices include complex carbohydrates like oats, barley, bulgur, beans, lentils; vegetables (that grow above ground), milk, yogurt, and dairy products. Also helpful - a carbohydrate eaten with a little fat or protein is absorbed into the bloodstream more slowly. People with diabetes and CKD also have a very high risk of developing heart disease and should follow the American Heart Association's recommendations for a heart healthy diet; avoid trans fats, limit saturated fats, and increase intake of the healthful omega-3 fats found in fish and fish oils.

Once a patient develops kidney disease and the kidneys are not able to filter as well, a special diet can help control the buildup of waste products and fluid in your blood and decrease the workload of the kidneys. It is vital that you work with a dietician who can help determine your individual needs and restrictions. At some point this may mean limiting your intake of protein, salt (to avoid fluid retention and help control blood pressure), fluids, potassium (foods like bananas, oranges, and nuts), and phosphorus.

Once on dialysis, patients' requirements will change again; they will need an increased intake of protein, calories, and other minerals and nutrients.

Nutritional supplements are an important addition to a proper diet. It is once again very important that you consult with your physician and dietician for direction since appropriate supplementation is determined by the patient's stage of kidney disease and any contributing medical conditions.

Q: I understand that diabetics with mild to moderate kidney problems are at risk when they receive dye or contrast. What can be done to help protect the kidneys from damage?

A: There are special precautions that are taken to help shield the kidneys from damage including limiting the amount of dye, increasing hydration (fluids), and taking vitamin C and a nutrient called N-acetylcysteine or NAC.

Q: Increased blood levels of homocysteine are often seen in patients with kidney disease. As these elevations have been correlated with heart disease, what can be done to decrease homocysteine levels?

A: CKD patients often have high levels of homocysteine in the blood. Elevated homocysteine has been correlated with coronary artery disease, stroke, macular degeneration, hip fracture and Alzheimer's disease. The current thinking is that high homocysteine is detrimental to the lining of blood vessels;

Spicy Chicken and Couscous

- 1 T olive oil
- 1 1/2 lb. boneless chicken breasts, cut into 1-inch pieces
- 2 cloves garlic, minced
- 1 14.5 oz. can diced organic tomatoes, drained
- 2 T lemon juice
- 2 T white cooking wine
- 1/4 teaspoon red pepper flakes
- 1 package couscous, to be prepared



In large skillet, heat oil over medium heat. Add chicken and garlic; cook 4-5 minutes, stirring frequently until garlic is golden brown and chicken is no longer pink inside. Add tomatoes, lemon juice, cooking wine, and red pepper flakes; bring to a boil. Cover and simmer for 5 minutes. Meanwhile, in medium saucepan, prepare couscous according to package directions. Serve chicken mixture over bed of couscous. Makes 6 servings.

Nutrition Facts Per Serving:

Calories 297, Protein 31g, Fat 6g, Carb 40.3g, Sugars 2g, Sodium 99mg, Phosphorus 219mg, Potassium 429mg, Iron 2mg, Magnesium 42mg.

Q&A

The Kidneys

(Continued)

that it is an “endothelial toxin.” Although it is somewhat controversial, many doctors feel it is beneficial to lower an elevated homocysteine blood level with the hope of preserving the health of vessels in the kidney and throughout the body. It might also help preserve the vascular access or the AV fistula which is a lifeline for dialysis patients. Homocysteine can be lowered with a combination of vitamins, including B6, B12, and folic acid.

Q: What is dialysis?

A: There are two types of dialysis: Hemodialysis and peritoneal dialysis.

Hemodialysis involves circulation of one's blood through a filter on a dialysis machine. A dialysis catheter which may be either temporary or permanent is placed into a large blood vessel for access. Blood is drawn out and run through the dialysis machine where it is cleansed of waste products and water and then returned to the body. Hemodialysis typically takes 3-4 hours and is needed 3 times a week. It can sometimes even be done at home. Peritoneal dialysis is another alternative which can be done at home; it utilizes the lining membrane of the abdomen as a filter to clean blood. About 2-3 liters of dialysis fluid are infused into the abdominal cavity through a catheter. This fluid contains substances that pull wastes and excess water out of neighboring tissues. The fluid typically needs to be exchanged 4 to 5 times a day, and can be done manually or by using a machine to perform the dialysis at night.

Q: Once a patient is on dialysis, how do you best take care of yourself to live a longer, better life? Avoid hospitalization?

A: The best way to take care of yourself is to work with your doctor and dietician: adhere to your diet, medications and nutritional supplements, and to your prescribed dialysis.

our MISSION

is to enable your
doctor to provide
you with the best
and most appro-
priate nutritional
supplements.

YOUR RESOURCE FOR EDUCATION AND THE HIGHEST QUALITY *MEDICALLY DIRECTED VITAMINS AND SUPPLEMENTS*®

To learn more about our products please ask your physician, or visit our website at www.vitalremedymd.com.

AntioxidantBalance® • Daily2Tab • DailyMultiple • HomocysteineFormula • Dialysist® • RetinGuard®
JointFormula • N-AcetylCysteine • CALRemeDy® • StatinGuard® • Vital4Cholest™ • VitalOils™

Telephone: 561-347-6446 or Toll Free 800-770-4360 Outside Florida



6401 E. Rogers Circle, #4, Boca Raton, Florida 33487

