

World Kidney Day

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Human has 2 kidneys on both sides near the middle of each side of back. It is a bean-shaped vital organ for excretion with the size of about your fist. Every day, the kidneys process about 230 liters of blood to sift out about 2.30 liter of waste products and extra water which are collecting in the bladder before excreted through the urethra in the form of urine. The wastes in the blood come from the normal breakdown of active tissues and from the food we eat. The kidney can selectively filter the wastes through million of tiny units called nephrons and keep the important and useful chemicals in balance. If the kidney loses its function from any causes, these regulations will fail and the body is not survived.

In addition, kidney also releases 3 important hormones; erythropoietin to stimulate red blood cell formation, rennin to control blood pressure, and calcitriol, the active form of vitamin D, to help maintain calcium for bones.

Any things that damage the nephrons and the flow of blood in the kidney will cause kidney failure. The most common causes are diabetes, high blood pressure, and kidney stones. Other less common causes include, autoimmune diseases, infection related diseases, congenital kidney diseases, poisons, trauma and improper or long term-use of drugs especially those over-the-counter medicines, such as combine aspirin, acetaminophen and NSAID.

Early stage of kidney diseases usually do not show any symptoms, but if become worse, ones will develop frequent urination, dysuria, feel tired or itchy, lose appetite, experience nausea and vomiting, swelling of face, hands, and feet, back pain and high blood pressure, etc.

Lab analysis will show albuminuria (leakage of protein in urine), high waste product levels in the blood such as, creatinine, blood urea nitrogen (BUN) and decrease glomerular filtration rate (GFR).

Since we have a pair of kidneys which provide an enormous reserve function, people with only one healthy kidney are still able to lead normal healthy life. As a consequence, small declines in kidney function may not cause any problem. Only the symptoms will show when less than 25% of the function remain and the people cannot survive without some form of kidney dialysis or transplantation if the function drops down below 10-15%.

According to Professor, Dr. Leena Ong-artyuth, Chief of Division of Nephrology, Department of Medicine, Siriraj Hospital and President of Society of Nephrology of Thailand, up to the year 2004, more than 13,000 Thai people had been suffered from chronic renal (kidney) failure and needed kidney dialysis (mainly by hemodialysis and peritoneal dialysis) and 1,542 for kidney transplantations, consistent with the population ratio of 236 per million. Only in 2004, there were 7,871 new patients with chronic kidney failure, accounting of 125 per million. This was expected to be three to four times lower than the actual numbers since lots of patients were unable to pay the cost and passed away without treatment. The estimated cost of hemodialysis is about 20,000-30,000 baht per month for life.

The centers for hemodialysis are also limited. At present, there are only 350 centers throughout the country and 42 percents are confined in Bangkok and peripheries. Only 51 and 24 centers are capable for peritoneal dialysis and kidney transplantation respectively.

To lessen this national burden, a proactive campaign needs to be launched. The World Kidney Day, therefore, is established at the second Thursday of March each year to generate the awareness, the knowledge of prevention and early detection of the

diseases among people and health providers in all levels. The first World Kidney Day is on March 9, 2006.

Dr. Leena says that this program is cost-effective. Early detection with initial proper treatment as well as adjustment of life style among people with decreased kidney function will lessen the risk to develop chronic kidney failure in up to 20-50%.

The 10 recommendations include; 1) control your blood pressure to normal or near normal, 2) control your blood sugar level, 3) reduce protein, salty, and high cholesterol diet, 4) quit smoking, 5) avoid drug over-use or any drugs with side effect to the kidney, 6) treat your anemia, 7) avoid nut and bean products in who with high blood phosphate or some fruits such as durian, lummyai, jackfruit, in high blood potassium, 8) prevent the urinary tract infection, 9) use diuretic drug when only needed, and 10) appropriately and regularly exercise.

Continuing medical education in this field is available for all physicians at the Joint Scientific Congress of 2 Faculties of Medicine, Siriraj and Ramathibhodi Hospitals, at Queen Sirikit Convention Center, on 18-21 April, 2006.