



PERSPECTIVE



Risk Factors of Chronic Kidney Disease and its Causes

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Description

Chronic Kidney Disease (CKD) is a type of kidney disease in which there is a gradual loss of kidney function over months or years. At first, there are usually no symptoms; later symptoms may include leg swelling, feeling tired, vomiting, loss of appetite, and confusion. Complications may be related to hormonal kidney dysfunction and include (in chronological order) high blood pressure (often associated with activation of the renin-angiotensin-aldosterone system), bone disease, and anemia. In addition, patients with CKD have markedly increased cardiovascular complications with an increased risk of death and hospitalization.

Chronic kidney disease, also called chronic kidney disease, involves the gradual loss of kidney function. Your kidneys filter waste and excess fluid from your blood, which are then excreted in your urine. Advanced chronic kidney disease can cause dangerous levels of fluid, electrolytes, and waste to build up in your body. In the early stages of CKD, you may have several signs or symptoms. You may not realize you have kidney disease until the disease is advanced. Treatment for chronic kidney disease aims to slow the progression of kidney damage, usually by controlling the cause. But even controlling the cause may not prevent kidney damage from progressing. Chronic kidney disease can progress to end-stage renal failure, which is fatal without artificial filtration (dialysis) or a kidney transplant.

Causes of chronic kidney disease include diabetes, high blood pressure, glomerulonephritis, and polycystic kidney disease. Risk factors include a family history of chronic kidney disease. Diagnosis is made with blood tests to measure estimated Glomerular Filtration Rate (GFR) and urinalysis to measure albumin. An ultrasound or kidney biopsy may be performed to determine the underlying cause. Several staging systems are used

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based on difficulty.

Screening of people at risk is recommended. Initial treatment may include medications to lower blood pressure, blood sugar, and cholesterol. Angiotensin-converting Enzyme inhibitors (ACE inhibitors) or Angiotensin II Receptor antagonists (ARBs) are usually first-line agents for blood pressure control because they slow the progression of kidney disease and the risk of heart disease. Loop diuretics may be used to control edema and, if necessary, to further lower blood pressure. NSAIDs should be avoided. Other recommended measures include staying active and making certain dietary changes, such as a low-salt diet and adequate protein. Treatment of anemia and bone diseases may also be necessary. Severe disease requires hemodialysis, peritoneal dialysis, or a kidney transplant for survival.

In 2016, chronic kidney disease affected 753 million people worldwide: 417 million women and 336 million men. It caused 1.2 million deaths in 2015, up from 409,000 in 1990. The causes that contribute to the greatest number of deaths are high blood pressure (550,000), followed by diabetes (418,000) and glomerulonephritis (238,000).

Risk factors

Factors that may increase the risk of chronic kidney disease include ;

- Diabetes mellitus
- High blood pressure
- Heart diseases (cardiovascular).
- Smoking
- Obesity
- Black, Native American or Asian
- Kidney diseases in the family

- Abnormal structure of the kidney
- Older age
- Frequent use of drugs that can damage the kidney

Causes

Chronic kidney disease occurs when a disease or condition impairs kidney function, causing kidney damage to worsen over months or years.

Diseases and conditions that cause chronic kidney disease include:

- Type 1 or 2 diabetes
- High blood pressure
- Glomerulonephritis (gloe-mer-u-low-nuh-FRY-tis), inflammation of the filtration nodes of the kidneys (glom-

eruli)

- Interstitial nephritis (in-tur-STISH-ul nuh-FRY-tis), inflammation of the kidney tubules and surrounding structures
- Polycystic kidney disease or other hereditary kidney diseases
- Long-term obstruction of the urinary tract due to conditions such as an enlarged prostate, kidney stones, and certain cancers
- Vesicoureteral (ves-ih-koe-yoo-REE-tur-ul) reflux, a condition that causes urine to back up into the kidneys
- Recurrent kidney infection, also called pyelonephritis (pie-uh-low-nuh-FRY-tis)