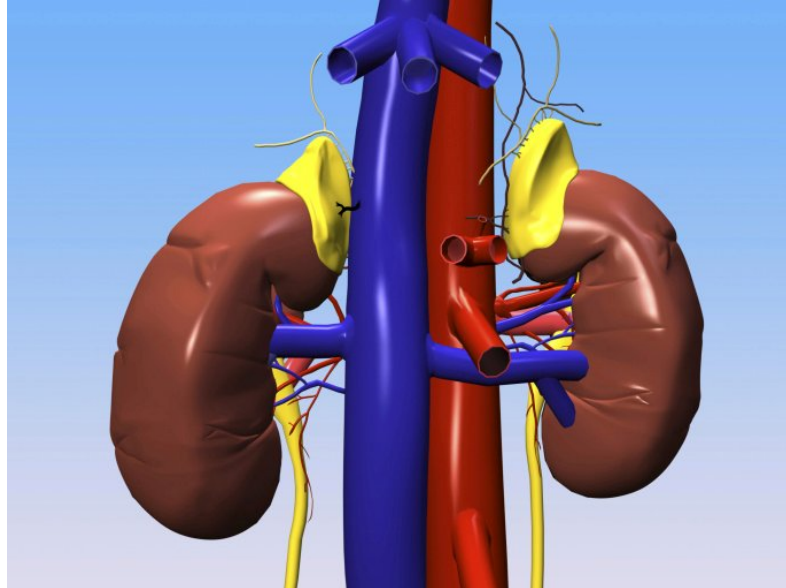


Chronic renal failure

When a kidney slowly stops working over several years, a patient has what is called chronic renal failure. It is due to diseases that progressively damage the kidneys, such as diabetes or hypertension. A chronic or recurring kidney infection can harm the kidneys and cause progressive loss of kidney function. The symptoms of chronic renal failure appear



gradually and sometimes do not occur until after the kidneys practically no longer work at all. Chronic renal failure can cause symptoms such as headache, tiredness and weakness. It can also cause problems with concentration, memory loss and gastrointestinal symptoms, such as nausea and vomiting.

Treatment

To evaluate your symptoms, the doctor will ask you for your medical history and will perform a physical examination on you. If he suspects renal failure, the doctor generally orders blood and urine tests. Sometimes it is necessary to perform a kidney biopsy to determine what the cause of the renal failure is. The kidneys of patients with chronic renal failure generally work increasingly less, which leads to end-stage renal disease (ESRD).

End-stage renal disease (ESRD)

In patients with end-stage renal failure (or end-stage kidney disease) the functioning of the kidneys deteriorates to the point that they can no longer eliminate sufficient waste products from the blood nor regulate the amount of water that is excreted by the body to such a degree that the patient dies if he does not receive dialysis. ESRD often follows chronic renal failure, but can also occur after acute renal failure.

The symptoms of ESRD may include:

- Headache
- difficulty concentrating, memory loss, confusion or coma
- tiredness and weakness, often severe

- nausea, vomiting and diarrhea
- chest or bone pain

ESRD is diagnosed when a patient has symptoms and continually has very high concentrations of BUN (blood urea nitrogen) and creatinine, which are chemical substances in the blood that indicate how a kidney is working. The fact that the concentrations of these substances remain high for a long time means that permanent kidney damage has occurred. Hemodialysis, peritoneal dialysis and kidney transplant are the three types of treatment that exist for ESRD.