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Question

Discuss the diseases of the renal system

Answer

- 1. Kidney Stones Form from Substances in Urine:** The kidneys produce urine to eliminate waste. Kidney stones can form when mineral and acid salts in the urine crystallize and stick together. If the stone is small, it can pass easily through the urinary system and out of the body. A larger stone can get stuck in the urinary tract, however. A stuck kidney stone causes pain and can block the flow of urine.
- 2. Urinary Incontinence Is the Loss of Bladder Control:** Most bladder control issues arise when the sphincter muscles of the urethra are too weak or too active. If the sphincter muscles are too weak, a cough or sneeze can cause urination. Sphincter muscles that are too active can trigger a sudden, strong urge to urinate with little urine in the bladder. These issues are diagnosed as urinary incontinence (UI). Women experience UI twice as often as men. It becomes more common with age.
- 3. Fluid-filled Cysts Can Develop in the Kidneys:** A simple kidney cyst is a rounded pouch or a closed pocket that is usually filled with fluid. In polycystic kidney disease (PKD), clusters of cysts form inside the kidneys and take the place of the normal tissue. The affected kidneys become enlarged and work poorly. PKD is an inherited condition that often leads to kidney failure, requiring dialysis or kidney transplantation. Acquired cystic kidney disease (ACKD) typically affects people already on dialysis from chronic kidney disease. In ACKD the kidneys do not enlarge and no other symptoms occur.
- 4. Chronic Kidney Disease Can Lead to Kidney Failure:** In chronic kidney disease (CKD), the kidneys are damaged and unable to filter blood properly. This damage can lead to a build-up of waste substances in the body and to other problems, including kidney failure. The most common causes of CKD include diabetes, heart disease, and high blood pressure. A diseased kidney may look smaller and have a granular surface.

Causes of Diseases of the Kidney and Urinary System

Kidney disease leading to ESRD has many causes. The prevalence varies by country, region, ethnicity, gender, and age.

1. **Genetic Diseases:** Knowledge of inherited kidney disease has changed radically with advances in molecular biology and gene-sequencing technology. The characterization of inherited kidney diseases has improved, and novel mutations leading to selective renal defects have been described. Inherited kidney diseases are rare, with the exception of autosomal dominant polycystic kidney disease.
2. **Glomerulonephritis:** Glomerulonephritides are a group of kidney diseases that affect the glomeruli. They fall into two major categories: glomerulonephritis refers to an inflammation of the glomeruli and can be primary or secondary, and glomerulosclerosis refers to scarring of the glomeruli. Even though glomerulonephritis and glomerulosclerosis have different causes, both can lead to ESRD.
3. **Infections, Stones, and Obstructive Uropathy:** Infections of the urinary tract are a common health problem worldwide and can be categorized as either uncomplicated or complicated. Uncomplicated infections include bladder infections such as cystitis.
4. **Benign Prostatic Hypertrophy:** Benign prostatic hypertrophy is a major cause of lower urinary tract symptoms and leads to obstructive renal failure and ESRD.
5. **Acute Renal Failure:** Acute renal failure refers to a sudden and usually temporary loss of kidney function that may be so severe that RRT is needed until kidney function recovers. Even though acute renal failure can be a reversible condition, it carries a high mortality rate. Acute renal failure is a prominent feature of major earthquakes, where many suffer from crush syndrome accompanied by severe dehydration and rapid release of muscle cell contents, including potassium.
6. **Diabetes:** Diabetes is one of the most common noncommunicable diseases (see chapter 30). With the serious complication of nephropathy, diabetes has become the single most important cause of ESRD.
7. **Hypertension:** Hypertension and kidney disease are closely related. Most primary renal diseases eventually produce hypertension. Arterial hypertension accelerates many forms of renal disease and hastens the progression to ESRD.

DISEASES OF URINARY SYSTEM

- **Cystitis:** cystitis means inflammation of m.m of UB characterized by frequent, painful urination.
- **Paralytic bladder**
- **Urolithiasis**
- **Acute renal failure**