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NURSING

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DISEASES OF THE RENAL SYSTEM

Renal system disease or disorders that affect the human urinary system. They include benign and malignant tumors, infections and inflammations, and obstruction of calculi. Many of the manifestations of renal disease can be accounted for in terms of disturbances of the two functions.

The eliminatory process does not, of course, end with formation of urine, the urine has to pass down the ureters of the bladder, be stored there, and voided, usually under voluntary control. Disturbance of the lower urinary tract is an important cause of pain and distress, notably during pregnancy and in the elderly; and it can lead to serious and progressive damage to the kidneys, either by interfering with the drainage of urine or by allowing bacterial infection to have access to the kidney.

While it is possible for the urinary tract to be obstructed by a large mass (tumor, stone, or foreign body) lying in the bladder, the tubular portions of the tract (urethra and ureters) are much more vulnerable to obstruction. The urethra may be obstructed by stones formed in the bladder or kidneys; by fibrous contraction of the urethral wall (urethral stricture) and by congenital valve or diaphragm (membranous malformation). Although not a part of the excretory tract, the prostate lies close to the bladder neck in older men it is important cause of obstruction; fibrous disease of the bladder neck can also cause obstruction. The ureters can likewise be obstructed by calculi and stricture (narrowing) by fibrosis scarring of surrounding tissue (fibrosis) and by tumor, though this is more likely to cause blood in the urine (hematuria).

Urinary calculi vary greatly in size. Mostly they contain calcium phosphate, calcium oxalate, uric acid or cysteine. Predisposing factors include infection, a high rate of calcium excretion, a low rate of urine formation and various metabolic disorders, notably gout. They may cause trouble by their size or by entering the ureter or urethra, giving rise to colic, to hematuria, and, in event of impaction, to obstruction kidney disease. The direct treatment of calculi is surgical, but sometimes the stone can be fragmented in situ by a lithotripter. The sufferer needs general investigation for any underlying cause (e.g. a functioning parathyroid tumor that causes excessive excretion of calcium).