

a patient who, prior to operation, has a low renal capacity. The great value of these studies, surgically, lies in their ability to reveal those cases which are suitable and those which are unsuitable for operation as far as the kidneys are concerned. They can indicate that uremia is certain to occur following operation in a given case, that certain cases are hopeless, others poor, good or excellent surgical risks, but they offer no absolute security that the subject of a good surgical risk will not develop renal insufficiency.

The previous knowledge of the renal function is also of prognostic importance in the event of development of post-operative uremia, for the occurrence of this condition, in one who has been previously shown to have a continuously low function, means a grave prognosis, whereas, in one who has had a good renal function, recovery is more probable.

The tests are of value in two classes of cases: (1) those with retention of urine, renal injury following, due to obstruction in lower urinary tract with back pressure upon the kidney resulting in functional changes, in hydronephrosis, or in pyelonephritis, etc.; and (2) those with unilateral or bilateral renal disease.

#### *Obstruction in Lower Urinary Tract.*

As a result of obstruction in the lower urinary tract, pathological changes may occur in the ureter and kidneys, dilatation of the ureters varying grades of hydronephrosis and, as a result of the long continued high pressure, atrophy of the parenchyma of the kidney. Not infrequently, infection occurs with the development of a pyelitis, a diffuse or localized pyelonephritis, or pyonephrosis. The occurrence of these complications is often difficult of recognition and is often overlooked, especially in the absence of symptoms of renal inadequacy. Cystitis and associated albuminuria and cylindruria are usually present, albumin and casts not contraindicating operation. The urinary output may be normal in many instances, also the urea output and total solids, and yet the patient be on the verge of renal failure. Disastrous results may be certain to follow any surgical intervention at this time, yet often nothing outside of functional studies can furnish this information.

A marked decrease in the excretory phenomena alone, or associated with cumulative phenomena, means severe derangement of renal function, which *may be of either a temporary or permanent*