LEONARD G. ROWNTREE, M.D.

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and treatment. The widespread nature of the importance of such determinations is probably not so apparent to those confining their attention purely to its medical or surgical aspect, but to those interested in methods of determining renal functional capacity as such it becomes firmly impressed as investigations are made in relation to acute and chronic nephritis, orthostatic or other albuminurias, arteriosclerosis, uremia, myocardial insufficiency, polycystic kidneys, obstruction in the lower urinary tract, cystitis, pyelitis, uni- and bilateral hydronephrosis, pyonephrosis, pyelonephritis and ureteral renal calculi, hypernephromata, renal tuberculosis and the numerous allied conditions calling for differential diagnoses.

The clinical diagnosis made, in any individual case before offering a prognosis, certain problems must be investigated. (1) What pathological condition underlies the clinical picture? (2) Is the condition localized to the kidney or is any other system (cardiovascular) involved or likely to be involved? (3) What is the functional capacity of the kidney? Is this permanent or temporary, subject to change? (4) Is or is not the condition one amenable to treatment? Only by attention to all these factors can anything approaching correct prognoses be attained.

Renal functional capacity is usually ascertained in one of two ways: First, tests of excretory capacity through the quantitative determinations of the excretion of various substances in the urine, dycs—methylene blue, indigo carmine rosaniline, sulphonephthalein, other chemicals—potassium iodide, lactose, salicylates, sodium chloride, urea, sugar following phloridzin and the enzyme diastase. Second, tests of the retention through quantitative determination of the concentration of certain substances in the blood, ions through electrical conductivity, molecules through cryoscopy, urea, incoagulable nitrogen and cholesterin.

The recent work of Folin and Denis' indicates that the concentration of urea 0.5 gm. and of total incoagulable nitrogen 0.6 gm. per litre heretofore considered normal, must no longer be so considered, since in sixteen strictly normal individuals the highest nonproteid nitrogen which they found was 26 mg. and urea nitrogen 13 mg. per 100 gms. blood. Slight nitrogen retention* may appar-

*One would expect the urea and total incoagulable nitrogen in the blood to be approximately inversely proportional to the exerctory efficiency of the kidney since this is the only channel of elimination (practically speaking) for the nitrogeneous waste products.

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