

On examination patient was found markedly emaciated, Hb. 50 per cent.; R. B. C. 300,000; W. B. C. 18,500. Kidneys not palpable; no tenderness. X-ray showed stones in both kidneys and in upper portion of left ureter. Urine: 1700 cc. in twenty-four hours, S. G. 1017, albumin \* \* and cloudy from pus.

Phthalein test January 2nd, no drug for two hours. Under forced water the urinary output increase and patient became less toxic, nausea and vomiting disappearing. Phthalein output was now 5 per cent. Two days later uraemic symptoms reappeared and the phthalein output was again zero. A double nephrotomy under gas was rapidly done in the hope that some relief might be thus secured. Both kidneys were found to be merely thin-walled sacs filled with calculi and pus. Patient died in uraemic convulsions in less than twenty-four hours.

#### TECHNIQUE OF THE PHTHALEIN TEST AS APPLIED TO ESTIMATION OF THE FUNCTION OF THE INDIVIDUAL KIDNEY.

Functional tests have already demonstrated their great value in this connection. But they have at most been able to determine only the relative working capacity of each kidney and have shed very little on the absolute functional capacity of each organ.

The phthalein test in association with ureteral catheterization has been used in 70 cases of unilateral or bilateral disease, the technique being as follows. In most of these the subcutaneous administration was used. Recently, however, the intravenous method of administration has been employed, whereby the time necessitated for observation has been reduced to half an hour. Where it is desirable to determine whether the supposedly healthy kidney can assume sufficient function to permit of the removal of the other kidney, only a half hour period of observation is necessary.

#### TECHNIQUE OF THE PHTHALEIN TEST AS APPLIED TO SURGICAL DISEASE.

Twenty minutes previous to examination 600 to 800 cc. of water is given to patient in order to insure a free flow of urine. The ureters are then catheterized.

As it is essential to collect all the urine secreted by each kidney during a definite period of time, in order to do accurate quantitative work, a form of ureteral catheter especially devised for this purpose has been used. The flute and catheter of Albarran, No. 6 or preferably No. 7, has been found to be most satisfactory. The catheters which have only side openings and no end openings cannot be depended upon for this pur-