

sac, very little secreting tissue remaining. From the operation the man recovered nicely without any disturbance in the function of the right kidney and without any evidence of renal inefficiency. Six months later he died of miliary tuberculosis.

It need only be mentioned that in examining for renal calculi, the confirmatory evidence of blood from one kidney alone is of considerable value in interpreting the radiograph.

When there is sufficient evidence of disease in one kidney to call for its removal, it must be determined that the other kidney is not only present and free from active disease, but that it is able to do the work usually done by two.

Several tests may be applied to determine this point. One of the most reliable is the specific gravity taken, with proper precautions as to amount of liquids consumed, and on more than one occasion.

The induction of renal glycosuria, based upon the discovery of von Mehring is of value as an indication of renal efficiency, but we have not found it always trustworthy. This I quite think may have been due to faulty technique particularly in the preparation of the solution. After a subcutaneous injection of 1 to 1.5 mg. of phloridzin the healthy kidney excretes urine containing sugar after 15 or 20 minutes, whereas a sugar reaction is shown much later on or not at all by the diseased kidney. It is of confirmatory value, but speaking from a very limited experience we would not be inclined to place unlimited confidence in it.

Cryoscopy of the urine and of the blood as an indication of renal efficiency has been brought prominently before the profession by Kümmell. Many clinicians, particularly on the Continent, have made use of this test, and with somewhat varying results. I obtained the Beckman apparatus for determining the freezing point, seven years ago, and since then it has been used more or less in the Montreal General Hospital. Some of you may remember that three or four years ago Dr. Turner reported the results obtained in a series of, I think, one hundred cases. The technical difficulties in its use became at once apparent, and I am satisfied account in part at least for the discrepancies that have occurred and the widely differing estimates that have been placed upon its value. Dr. Campbell has used it in a number of cases and with such care and precision that his results have been uniform and of value. Solutions freeze at a temperature lower than their solvent, and equality in osmotic pressure may be inferred directly from the identity of the freezing points. I cannot outline the principles of this test better than by quoting from a recent article in *Surgery, Gynecology, and Obstetrics* by Kümmell.