

show the calculi to be still in the same position. In June, 1901, this patient, after spending the day at Niagara, was seized with a slight pain in the region of the left kidney and profuse hematuria to such an extent that it was necessary to catheterize the distended bladder several times, and wash out the clots of blood. A complete blood cast of the ureter, about ten inches in length, was obtained in one of the washings. A skiagraph was taken and compared with that of April, 1901, and it was now noticed that the calculus in the left kidney had descended the ureter to within one inch of the bladder. While cystoscope was not employed to actually see if the blood came from the left ureter, it seems to me, when taking into consideration the slight lumbar pain on the left side, and the descent of the calculus, that the explanation of the hematuria is obvious.

The following is a case which shows the existence of calculi for over 40 years.

Mrs. G., age 70, passed, in 1860, a small mulberry calculus after an attack of renal colic; since then there has never been any colic or pain, but since 1880 the urine has contained pus. The patient has had for years spells of vomiting and nausea, which were diagnosed as nervous dyspepsia by the successive family physicians and consultants. When I assumed charge of the case I was forced to be content with the same diagnosis. The urine was acid and contained considerable pus. I noticed that during the attacks, which had now become more frequent, the urine was somewhat suppressed. I advised the use of the cystoscope to make an intelligent exploration of the urinary tract, but this was refused. One year ago the first skiagraph was taken, and a veritable mine of calculi was shown on the plate—there were four in the right kidney, two in the left, eleven in the right ureter, seven in the left ureter, and two small calculi in the bladder. On account of the advanced age no operation was advised; pyonephrosis developed, and the case ended with uremia and terminal infection.

Miss R., age 29, was considered to have a movable kidney on the right side which suddenly disappeared; never any renal colic, urine normal. Skiagraph shows a small ureteral calculus two inches distant from the bladder. Ureter was dilated with Kelley's catheters, but the subsequent skiagraph still shows the calculus in the same position.

The advantages of the Roentgen rays in ureteral calculi may be summed up by stating that they render the diagnosis of the calculi certain. Heretofore the only means at our disposal have been palpation, provided the calculus was of sufficient size, or the somewhat uncertain use of the wax-tipped bougie in the female. The ureteral are the easiest of all calculi to detect, and an operation for their removal can be directed with mathemati-