

hemorrhage whatever took place. The average daily amount of urine before operation was 17 ounces; the first week after 37 ounces; second, 30; the third, 38. The stone weighed 35 grains, was pear shaped, flattened and very rough, an inch in length and three-quarters of an inch in width, I am not quite sure of its composition. No urine whatever came through the loin, and the wound gradually closed after the fourth day. (Here, then, are two successful cases taken early, before the advance of serious kidney disease.)

The symptoms which lead one to suspect stone are, broadly speaking, two in number: "the character of the pain and the character of the urine." It is obvious that where a renal tumor is present from a hydro- or pyo-nephrosis, or some other condition due to stone, one's attention will be drawn to the kidney immediately. The conditions which simulate renal calculus are many, but, even after investigation, tubercular disease easily takes the first rank and is frequently difficult to differentiate. The urine in both these cases showed an acid reaction, pus, blood, oxalates and urates in the first, no crystals whatever in the last. Quite prominent also were frequency of micturition, more marked during the day, with pain in the loin affected by exercise, and causing considerable irritation of the stomach. A thorough history of a case is of the utmost importance and a systematic examination of the urine, not only during the attacks but for sometime after, for the bleeding may be very minute or even absent altogether. In my two cases the X-ray utterly failed to give a shadow, though the utmost care was taken to obtain one. Uric acid is said to be the only calculi which will, on all occasions, give this test. My own experience is too limited to either assert or deny this statement.

I have also a uric acid calculus passed by a gentleman, age 76 years, who for some time gave a history of stone in the kidney. It is rough, half an inch in length, quarter of an inch in thickness and oval in shape, which was passed under great suffering. Cases where a stone of such a size successfully navigates the ureter are unfortunately rare. The stone that only weighs $8\frac{1}{2}$ grains is the smallest removed from the kidney that I can find in the literature of nephro-lithotomy, except one mentioned by Ia. Cobson in his table of twenty-one cases. After the operation the urine increased in both cases for the first week, lessened the second and increased again afterwards. This immediate increase seems to point to a good workable condition of the opposite kidney, which is of the utmost importance to the life of the patient. The kidney can be better examined if brought well out of the wound and made to rest on the edges of the lumbar fascia, where the surgeon can see every part, and palpate under the best conditions for stones are frequently missed by an incomplete exploration. The opening into the pelvis from behind is associated with no