

and burning pain after passing urine indicating excretion of oxalates in excess. By and by he has renal colic and perhaps passes per urethram a few small jagged oxalate of lime calculi. The passage of these calculi is accompanied by blood in gross or microscopic quantities.

One day a stone drops down from the kidney but fails to escape from the bladder, and becomes the nucleus of the specimen in question. It now grows slowly by accretion. The white oxalate crystals absorb the pigments of urine and become brown almost to blackness. It is probable that the blackest part of the specimen consumed 15 or 20 years in its growth; that the looser, more chaotic, radiating layer outside of this formed in another 5 or 6 years; and that the deposits of the layer of urates and phosphates forming the crust, occupied the remainder of the 30 odd years of the life of this calculus. The sprinklings of phosphates throughout the stone may possibly indicate attacks of mild cystitis, calling for rest and resulting in cure. If one should predicate a marked oxalate "diathesis" in this individual, the change from the precipitation of oxalate of lime to the deposit of urates does not indicate a marked diathetic reversal, for Hutchinson points out that "conditions: regards derangement of digestive power similar to those which produce uric acid, may under slight alteration of diet, produce the oxalates" and *vice versa*.

It is an extraordinary fact, as exemplified in this case, that, though the oxalate calculus is rough and very heavy, pain and hemorrhage are not, as a rule, prominent symptoms.

I have spoken of this stone as one of unusual size because it is one of the largest, if not the largest, that has come under my observation in this country as having been removed by operation. Stone is rare in Canada as compared with European and Asiatic countries, and it is but due to the medical profession in Canada to say that when present it is usually discovered and removed before it reaches any such dimensions as this specimen exhibits. But this is a small stone compared to some recorded cases. Hutchinson gives the following as some of the largest removed during life: A stone measuring in girth $16\frac{1}{2} \times 12\frac{1}{4}$ inches, Utterhavens: Hunter, (Madras) weight 25 ounces; Morrison, (Northumberland) weight 1 pound $6\frac{3}{4}$ ounces: Sir Henry Thompson, weight 14 ounces, (avoir).