

health, though not bad, was far from being robust. In fact, he was what is usually understood by the term, a "delicate boy."

The treatment I pursued in this case, is that, which, under similar circumstances, I find to answer best, viz., a combination of diaphoretics, anti-spasmodics, alkalies, and nutritious diet. Accordingly, a powder of nitrate of potash was ordered to be taken at bed-time, and washed down by a draught containing camphor mixture, and tincture of opium; lime water to be taken during the day, and nutritious diet, consisting of a good proportion of *fresh* animal food.*

Nitrate of potash acts in these cases most beneficially, not only in keeping the skin in a healthy state, but also by increasing the watery constituents of the urine, thereby diluting it, and rendering it less irritating to the bladder.* The camphor and opium are serviceable in preventing spasmodic contraction of the bladder, and in subduing irritation.

The indications for alkalies are so manifest, that no explanation is required for their having been ordered. Of these I have derived most benefit from lime water taken with equal parts of milk, and used, not as a medicine, but as the ordinary drink of the patient. Most invalids become very fond of it, after the first three or four days.

It may appear unscientific to order animal food, in the lithic acid diathesis, seeing that we thus supply the system with nitrogenized elements, and consequently with materials for the formation of urea; yet the harm we do, is more than compensated for, by the benefit to the system generally; for though, in a chemical point of view, we ought to withhold azotised substances in the uric acid diathesis, yet pathology has shown that we must first relieve the debilitated and irritable state of the system, in such cases, before we can look for a *permanent* improvement in the renal secretion.

A perseverance in the above treatment was completely successful; on the third night of treatment, for the first time in his life, he avoided wetting the bed, and on the 2d of April, the urine was 1021 in spec.

* I have remarked that many patients affected with the lithic acid diathesis, become extremely fond of salt provisions; and some boys will eat large quantities of table salt, unmixed with any other substance.

* It is by no means uncommon to find that the excess of lithic acid, or lithate of ammonia in urine is more apparent than real, and depends upon an abnormal deficiency of the aqueous portion of the urine, in consequence of which the solution of these substances presents itself in a more concentrated form; the quantity of urea daily secreted not being in reality more abundant than in health. The converse of this should also be borne in mind, for where the watery portion is in excess, the urea compounds may be so diluted as to escape detection, as was the case for many years with respect to diabetes, although, as is now well known, the normal quantity of urea is daily eliminated even in this disease.

grav.; it reddened litmus paper slightly, and deposited triple phosphate in considerable quantity.* Dr. Chas. Campbell was present at this analysis of the boy's urine. From this time forward, his general health greatly improved, and the power of retaining his urine continues unimpaired.

CASE IV.—A gentleman of great intellectual attainments consulted me, when practising in Dublin, under the following circumstances. He and a friend had gone on an excursion, during which they indulged in claret and champagne, wines to which they were unaccustomed. My patient soon became affected with great and frequent desire to make water, accompanied with pain over the region of the pubis; but these symptoms were not productive of much annoyance, nor did they excite much alarm, for it being hot weather, he also drank freely of cooling beverages, and attributed the frequent micturition to this cause. The symptoms not disappearing on his return to his ordinary mode of life, he was induced to consult me. I found him in rude health; every function performed with regularity; the urine voided in my presence appeared perfectly healthy; the slight trace of opacity produced by adding nitric acid was so trifling that I attached but little importance to it; it was also alkaline, and of high specific gravity. On examining it with the microscope, pus globules were discovered. I now ordered him to save for me, the urine passed next morning, and on examining it, I was really surprised at the quantity of pus globules it contained. As there was no evidence of disease of the kidneys, ureters, or urethra, I treated him for chronic cystitis, and with success. The microscope was of the greatest assistance in the diagnosis, but it was infinitely more useful in the latter stages of the disease, for I was induced by the evidence it afforded, to persevere in my treatment, long after the urine ceased to throw down a deposit perceptible to the naked eye; and I have no doubt that without its aid, I should have

* I have frequently remarked the change from an exceedingly acid to an alkaline condition of the urine to take place so suddenly, that I could not attribute it altogether to the action of the medicine administered, and I have consequently considered that the phenomenon admitted of the following explanation:—We know that "if urine be secreted with so small a proportion of acid as barely to redden litmus paper, a deposit of triple phosphate often occurs a few hours after emission, a phenomenon depending partly on the influence of the mucous matter present, which, exciting a catalytic action like a ferment, induces the decomposition of urea, and the formation of carbonate of ammonia, which, by neutralizing the solvent acid, throws down the phosphates" (see *G. Bird*, p. 105). This change is favoured by the decrease of lithic acid diminishing the irritability of the bladder, and thus enabling it to retain the urine in its cavity for a longer period, so as to favour still further the continuation of the chemical process; for it is in cases accompanied by frequent desire to empty the bladder, or, if the patient be a child, with "wetting the bed," that we most commonly observe this sudden change take place.