

and some other minor ingredients, and made into a paste which is not disagreeable to take. Of this a pill of 20 or 25 grains may be swallowed two or three times a day. In whatever manner the two remedies may be combined, they not unfrequently disturb the stomach and bowels, and require the addition of a little opium and tannin. The best time to take the remedy is about two hours after eating. The effect upon the local symptoms is sometimes truly magical, and the patient passes in a few hours from a state of despondency to one of decided exhilaration in consequence of the great and sudden relief from painful micturition. By continuing these remedies for two or three weeks, employing at the same time a general tonic course if necessary, a cure may be sometimes produced, or, at any rate, such a degree of amelioration as to fully satisfy the expectations of the patient. I have sometimes thought that the addition of bicarbonate of potassa increased the efficacy of the medicine, but am not quite sure upon this point. I have not much confidence in uva ursi, notwithstanding it is so highly commended by my venerable private preceptor, Professor Gross, and still less in buchu. I have had no experience with cimicifuga, pareira brava, triticum repens or matico.

If the copaiba and cubebs alone or in connection with the other means just enumerated should fail, as has happened in the case before us, local applications by injection are called for. For this purpose the following remedies may be employed in quantities sufficient to wash out the bladder thoroughly; nitric or hydrochloric acid ( $m\j$  to  $l\j$ ), liq. sodæ chlorinat. ( $m\j$  to  $l\j$ ), carbolic acid (grs. v to  $l\j$ ), tannic acid ( $\mathfrak{Dss}$  to  $l\j$ ). I have tried all of these repeatedly, and a great many other washes, but except in very mild cases, and as an adjuvant to the cubebs and copaiba, have laid them aside. The remedy upon which I now rely almost exclusively is nitrate of silver in solutions of such strength as will make a decided impression upon the inflamed membrane. I see of you who are aware of the great caution advised by nearly all surgical writers and teachers in reference to the use of this salt as an injection into the bladder, and their timid recommendation of a solution not stronger than *half a grain to four ounces of fluid*, have doubtless been somewhat startled when you have seen twenty grains, thirty grains, forty grains to a single ounce of water thrown into the organ with impunity, and with decided benefit to the patient. It is now nearly twenty years since I recognized the absurdity of weak solutions, having remarked that they no sooner reached the bladder than they were immediately decomposed and thus rendered entirely inert by the few drops of urine which they are always sure to encounter there despite the most thorough irrigation and the most rapid change of apparatus. Aside from this, I could see no good reason why the mucous coat of

the bladder should be an exception to all other similar structures, such, for instance, as the conjunctiva, the lining membrane of the fauces, the larynx, the trachea, and the uterus, to which surgeons are in the habit of applying not simply strong solutions but the solid salt itself. It seemed to me that it was only necessary to provide for the quick withdrawal of the fluid or its rapid decomposition, after allowing it to remain in contact with the inflamed surface for a few seconds, and no damage could occur from solutions even stronger than those already mentioned. After considering the question from this point of view, the first case that came into my hands was that of a young man, who several months previously had suffered paralysis of the lower half of the body, including the bladder, from spinal injury. The paraplegia had entirely disappeared, but the cystitis, which had resulted from neglectful retention of urine, was unabated, and he had not the slightest control of the function of micturition, the water dribbling from him continually. After washing out the cavity thoroughly I injected an ounce of a solution  $\mathfrak{Dij}$  to  $l\j$ , permitted it to remain about ten seconds, and followed its withdrawal by an injection of a solution of iodide of potassium in order to decompose any of the former which failed to escape through the catheter. After a week or ten days, sufficient improvement was manifested to justify a repetition of the operation. I then used the same quantity of a solution of the strength of  $\mathfrak{3j}$  to  $l\j$ . The effect was all that could be desired. The symptoms improved within three or four days, and in less than a fortnight the patient returned to his home in Alabama entirely cured.

Before entering into further details, permit me to impress upon you two or three points of paramount importance in the use of this remedy. First of all *be sure that you are dealing with a case of genuine chronic cystitis*. Simulation of the disease, as already stated, is not uncommon in hysterical women, and irritation of the surrounding parts sometimes gives rise to symptoms which may mislead the unwary. Especially guard against the mistake of considering what is termed "irritable bladder" a condition of inflammation of the organ. You may rest assured, that where a tolerably abundant discharge of vesical mucous is wanting, chronic cystitis does not exist. In the second place, be equally certain that the exciting cause has been removed, or at least so modified as to exert no further influence upon the disease. And in the last place, never undertake this method of treatment unless the urethra is sufficiently large to admit a No. 9 or 10 catheter.

The only other instrument required besides a catheter of the size just mentioned is an elastic bag capable of holding one or two fluid ounces and provided with a bone or hard rubber nozzle well fitted to the former.