

If necessary, heat may be employed by the pharmacist in making a clear mixture, the bulk of which might be this elixir of orange, or syrup and water. About twelve or fifteen grains per day, of caffen should be the limit of dose, but much smaller amounts are often sufficient. Abroad, as much as thirty grains a day have been given without damage.

Has caffen any bad effect? It has one. In the treatment of a case of dropsy in which I advised caffen, it quickly removed the effusion, but in four or five days the patient began to exhibit that kind of delirium which is seen in connection with belladonna poisoning. This is the only bad effect that I have noticed, and these symptoms have been most infrequent. It (caffein) is a cardiac stimulant; it is not cumulative, and does not injuriously affect the kidneys. The unpleasant cerebral effect is easily avoided with a little care, and the disturbance of the nervous system can be quickly removed by stopping the administration of the drug.

This patient will be kept in bed and the caffen administered, and four weeks from to-day, I shall show you the result.

(Four weeks later.) I have the satisfaction to-day of showing the case of Graves' disease, and you observe that the improvement of the general symptoms has been marked. The exophthalmos and enlargement of the thyroid have manifestly lessened. One may feel sufficiently encouraged by the results to persevere with the treatment, for we may reasonably conclude that two months' treatment will produce even more positive effects. You will remember that before using the hot-water bags, many other plans of treatment had been tried and signally failed.

I can also exhibit one case of vaso-motor dropsy as cured, and the patient will be discharged to-day.

Original Articles.

THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.¹

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A FEW considerations seem naturally to claim attention as preliminary to that of treatment.

By chronic Bright's disease I mean the affection, first described by Dr. Richard Bright, in 1827, characterized by albuminuria, dropsy and uræmia, the urine usually containing, also, casts of the renal tubules, and showing a deficiency of urea. The acute form of the disease, so often seen as a complication of pregnancy, or a sequel of scarlet fever, and which so commonly terminates in recovery, is not included within the scope of this paper.

In its anatomical relations chronic Bright's disease is a complex affection, at least three forms of structural disease are usually reckoned as underlying it. The first of these is that of tubal, or desquamative nephritis, the inflammation beginning in, and for a time being confined to the epithelial cells, which line the tubules, later becoming diffuse, and producing the so-called large white kidney. The second is that of interstitial nephritis, the inflammation commencing in the connective tissue of the organ, and finally inducing the small,

hard, contracted, cystic, or gouty kidney. The third is that of amyloid degeneration, the small arteries and capillaries of the kidneys being first attacked. One common result obtains, at last, in all the forms, that is, destruction, or atrophy of the parenchymatous elements of the kidneys, with consequent failure of function.

It may be well also to glance at some of the most prominent theories, that have prevailed in explanation of the disease, as having had an important influence upon the philosophy of the treatment. These theories have been brought forward chiefly in answer to two questions, namely, first, how is the large escape of albumen by the kidneys to be accounted for? second, at what point in the system does the disease originate? By some the escape of albumen in the urine has been regarded as the result of a true eliminative action on the part of the kidneys, by which the blood is happily relieved of an accumulated excess of albumen. By others, on the contrary, it has been looked upon as a disastrous leak of the kidneys, due to the double condition of abnormal blood pressure within the renal capillaries, and of impaired vitality of their walls, the blood being believed to be thereby robbed of its serum-albumen, and impoverished. By some the kidney lesion has been regarded as primary, and the albuminuria, the dropsy and the uræmia as consequences. By others the blood has been looked upon as the primary point of trouble, with the albuminuria, the dropsy and the kidney lesions as secondary. By yet others it has been held that the starting point of the disease is somewhere in the nerve centres, that it is of ganglionic origin. They claim that the disease is primarily a neurosis, and that the albuminuria, the dropsy and the renal troubles are of secondary development. The alleged fact that albuminuria, as well as glycosuria, can be induced by irritation of certain portions of the medulla is brought forward as giving plausibility to this view. While the theories have differed widely as to the point at which the morbid process commences, they are well agreed to this, that structural change in the kidneys constitutes the most characteristic autopsical lesions.

In a disease so generally fatal in its issue as chronic Bright's disease, the question of the value of treatment naturally arises in the mind. Does it make much difference how it is treated, provided no mischief be done, or, whether it be treated at all? I believe that good treatment is of immense value. By the exercise of constant and intelligent supervision, the adoption of a suitable general plan, and the adoption of measures of relief to the shifting phases, and emergencies of individual cases, not only can much suffering be prevented or relieved, but great prolongation of valuable and effective life may sometimes be gained. It is then alike the privilege and the duty of the physician to throw more of hopefulness and cheer into the treatment of this disease than is generally done.

The first duty of the physician is to investigate each particular case by itself. This is as important as it is for the teacher to study the peculiarities of individual pupils. It is not only desirable to determine the form of the disease present, its stage of development, as shown by the symptoms, and by chemical and microscopical examination of the urine, and any peculiarities of manifestation, but also to inquire into its probable causation. He must therefore make himself acquainted with the personal and family history of the patient, as

¹ Read before the Maine Medical Association.

well as with the previous history of the case. A broad principle of treatment, laid down by Beale, is to let the kidneys rest, as far as possible, and throw the work upon the skin, the bowels and the lungs.

I will endeavor to present the items of treatment under the following specific indications.

I. One of the most important indications is to avert, or reduce hyperæmia, and inflammation of the kidneys. With this end in view a uniform and sufficient warmth of the surface of the body should be maintained. In this disease, and also where predisposition to it exists, when the large amount of blood normally present in the cutaneous capillaries is reduced by chilliness of the surface, a corresponding hyperæmia of the renal capillaries is very likely to occur. In a case recently under my observation, of the typical parenchymatous nephritis form, the man owned, and steadily worked upon a farm, located upon a narrow neck of land projecting out from the Maine coast into the sea, and commonly swept by cold and damp winds, often sudden and severe. Frequently, when covered with profuse perspiration, his skin would become chilled with the winds, and he had himself noticed an apparent connection between these experiences and the development of his trouble. A moderately warm and equable climate is a great advantage. A sufferer from this disease, who is so favorably circumstanced as to be able to avail himself of different climates for different seasons of the year, so that he can have the benefit of free out-of-door life all the year round without risk of becoming chilled, has his chances of prolonged and comparatively comfortable life thereby greatly increased. Woolen undergarments should be worn, thick enough to ensure warmth without inducing sweating. A flannel nightgown is advisable in cold weather. In acute exacerbations of the disease, attended with increased heat, the patient should be kept in bed, between blankets, for days, or weeks. The importance of maintaining a uniform warmth of skin, in this affection, does not seem to be fully appreciated by the average practitioner. Local applications to the lumbar regions are useful, such as leeching, or cupping, followed by warm fomentations, especially when a sense of heat, and heaviness has arisen, with scanty secretion of urine. I have found advantage in large packs. Several thicknesses of towels may be used, large enough to thoroughly envelop the small of the back, and come round somewhat freely upon the abdomen. These should be wrung out in tepid water, covered with oiled silk, or impervious paper, and bound firmly on with a flannel swathe. A small blanket, folded once, may then be wrapped, and firmly pinned around the body below the waist. These, having been worn for the night, are removed in the morning, the skin is sponged with cold water, and rubbed dry, and a flannel swathe is worn for the day. Mild diluent diuretics are sometimes called for.

II. A second indication is to unload the obstructed uriniferous tubules of their accumulations. The thrown off and altered epithelial cells, transuded fibrine, extravasated corpuscles, and fatty débris, sometimes in the form of casts, frequently occlude the tubules, and add to the existing disability of the kidneys. Simple diluents, and mild diuretics are then needed, such as cream of tartar water, and pure natural waters like the Poland spring water. They should be drunk freely, and, by preference, on an empty stomach, so as to be quickly absorbed, and pass off through the kidneys.

III. A third indication is to build up the blood, and promote nutrition. Whether, or not, the blood is ever the starting point of the morbid process in the system, it is certainly true that the peculiar anæmic look of the patient is often the first thing that arouses in the mind of the physician a suspicion of the true nature of the disease, while, in the advanced stage, the blood is constantly found impoverished and deprived to the last degree, and utterly unfit to maintain healthy nutrition. Of the large class of building-up remedies I will mention, as specially useful, the *mistura ferri et ammonii acetatis*, cod liver oil, and malt. Judicious and persistent use must be made of this class of remedies.

IV. A fourth indication is to improve the condition of the nerve centres. The importance of this indication is specially plain in the cirrhotic form of the disease, occurring in painters, and others, who have been exposed to poisoning by lead. Here the iodide of potassium, the dose of ten to twenty grains, conveniently administered in half a tumblerful of Vichy water, may be given three times a day for long periods of time, with markedly good results. The same method is applicable to cases of syphilitic origin, or occurring in systems specifically infected. In such cases the corrosive chloride of mercury, in small doses may be substituted for the iodide of potassium for the period of a few weeks from time to time, with advantage. In some of the cirrhotic cases of unknown origin, I have found great benefit from the use of the chloride of gold and sodium, as suggested by Bartholow, in the average dose of the twelfth of a grain, in pill form, after each meal. I have seen periods of marked improvement of general condition, and special relief of distressing nervous symptoms follow its use. Arsenic, in small doses, and the hypophosphites are sometimes useful.

V. The fifth indication is to promote the elimination of urea from the blood. In order to appreciate the importance of this indication we have only to remember that uræmia constitutes the chief danger of the disease, a fatal apoplectic seizure being occasionally its first revelation; or, to call to mind the fearful sufferings of the paroxysms of uræmic dyspnœa, uræmic headaches and uræmic convulsions. Here we must mainly rely upon vicarious evacuations by the skin and bowels, and I believe that sudorifics are the most valuable class of remedies. Profuse diaphoresis may be induced by hot air and hot vapor baths, and by the internal administration of various drugs, of which *jaborandi* is by far the most valuable as an eliminator of urea from the blood. But the means, which I have found at once the most efficacious and convenient, is the hypodermic injection of pilocarpine. I have resorted to this method many times with the best results. The dose used is generally a quarter of a grain, the patient being in bed between blankets, and I usually find the entire surface of the body covered with a profuse sweat within the space of five minutes. When the process of diaphoresis is over the skin may be wiped dry, and fresh clothes put on. The amount of the secretion is enormous, and the elimination of urea has been shown to be large. Great relief of the uræmic symptoms is often obtained by the daily use of this method for a series of weeks. I have seen, in a case still fresh in my mind, headache, dizziness, dyspnœa, unrest, marked impairment of vision, and heart irritability so largely and rapidly subside as to raise a doubt in the mind of friends, and even of the attending

physician, as to the correctness of a diagnosis, unhappily fully confirmed by the later history of the case, and, at last, by the autopsy. I recommend the plan to my professional brethren, cautioning them to be sure to get an article of good quality.

VI. A sixth indication is to evacuate dropsical accumulations. For this purpose mechanical methods are sometimes useful, such as acupuncture of the legs, prepuce, labia, etc., or a short incision over one of the malleoli. Tapping of the abdomen is generally to be avoided in renal dropsy. Erysipelas is specially liable to follow operative methods in this form of dropsy. Hydrogogue cathartics, which are often so well borne, and so satisfactory in results in cardiac dropsy, are neither so safe nor so useful in the dropsy of Bright's disease. Sometimes, however, resort must be had to elaterium, in suitable doses and combinations. Sometimes making temporary use of the remaining powers of the kidneys, diuretics may be given, especially the infusion of digitalis with the iodide of potassium, or cream of tartar. But I believe that in this disease, not only for the elimination of urea but also for the evacuation of dropsical accumulations, the hypodermic use of pilocarpine is not only one of the safest, but also one of the most effective measures at our command. It is a good plan to alternate the various methods, laying the burden of vicarious service alternately upon the different organs. The Basham's mixture, above mentioned, besides being useful as a blood restorer, often acts as a gentle tonic-diuretic.

VII. A seventh indication is to sustain the heart. It has been shown by Johnson, and others, that in the inflammatory forms of the disease the walls of the small arteries and capillaries are very constantly thickened, and their calibre diminished. Indeed, it has even been proposed to call the disease an "arterio-capillary fibrosis." Associated with this vascular affection, if not indeed caused by it, is found hypertrophy of the left ventricle of the heart, which very generally, at last, undergoes fatty degeneration and dilatation. It is therefore a matter of great importance to save the heart if possible from all strain. No over-exertion of body or mind should be allowed. Excitements of all kinds should be avoided, and tranquility of mind should be promoted. Digitalis and strychnine are perhaps the two drugs most used, from time to time, to strengthen the heart's action.

VIII. My last indication is to palliate the suffering of this distressing disease. The methods for this are in large measure involved, and have been mentioned under other heads. As much of the distress doubtless arises from uræmia, so the most lasting relief is that which comes from the elimination of the urea. I will mention a few items here. In the fits of dyspnoea prompt relief is sometimes obtained from the hypodermic injection of the quarter of a grain of morphia with the hundred and a twentieth of a grain of atropine. The nitrite of amyl quickly affords relief, in some cases, a few drops being put upon a handkerchief and held to the nose. The same use of morphia and atropine is often useful in convulsions, restlessness, and general nervous disturbance of the advanced stages of the disease. For the headache and dizziness a scruple of bromide of sodium in a teaspoonful of syrup of lactophosphate of calcium may be given three times a day, and, for the asomnia, thirty grains of bromide of potassium, with seven or eight grains of chloral at bedtime. For the uræmic coma I have

found the hypodermic use of pilocarpine by far the most effective remedy.

For diet, as a rule, any articles of plain and simply cooked food may be allowed which the appetite inclines to and the stomach is able easily to dispose of. In some cases advantage is found in a restricted diet of milk, skim-milk, or butter-milk.

Again, in closing, I would mention by way of emphasis, that while chronic Bright's disease is, at least, very generally fatal, yet the fatal issue is not necessarily a speedy one, and that years of comparative comfort and effectiveness may sometimes be added to valuable lives, by constant watching and judicious treatment.

A RARE CASE OF INTESTINAL MALFORMATION.

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THE case which I am about to report is unique in my experience, though a few similar cases are on record. Gross (Surgery, Vol. II. p. 684) says of such intestinal malformations: "The rectum, instead of terminating at the anus, occasionally, though very rarely, opens by a narrow canal into the urinary passages, generally at the posterior part of the urethra, or at the *bas fond* of the bladder, a short distance below the insertion of the urethra, the former mode of communication being more frequent. The malformation is almost peculiar to males, and generally proves fatal within a few days after birth, on account of the small size of the recto-vesical outlet not allowing a sufficiently free discharge of fecal matter. To this rule, however, an exception occasionally occurs; thus in a case which I attended with Dr. Kempf, and in which I made a very deep incision without reaching the bowel. The child survived six weeks, passing daily a little fecal matter through the urethra. An uncle of the child had lived in a similar condition for thirty years."

Mrs. A. B., of Newburyport, while temporarily staying in Boston, gave birth in May, 1884, to a male child which was found to have an imperforate anus. Dr. H. M. Jernegan was called in to render surgical assistance; he dissected upwards in the ischio-rectal fossa in the direction of the rectum for some distance without finding the bowel, gave up the search, and closed the wound. The next day the infant began to pass thin feces with its urine, every such passage giving pain. The child seemed for a time to thrive; had frequent fecal motions per urethram attended with much straining and distress. At the age of five months, symptoms of obstruction of the bowels set in; for five weeks nothing but urine was passed by the urethra; the abdomen was tympanitic and painful; for several days all nourishment was vomited, these symptoms all passing away with the return of copious fecal discharges along with the urine.

I first saw the child in October. It was then a puny, pale, delicate infant; weight, fifteen pounds; lay most of the time like a limp, flaccid body in its mother's arms; could not raise itself or sit erect; took its food from the bottle with avidity, and seemed at times playful, but had frequent straining urethral passages of thin feces, which were generally of a normal color, and curdy.

In the Spring of the present year, I found the condition of the infant not materially changed. There had