Van Bibber (W. C.)

WITH THE AUTHOR'S COMPLIMENTS.

Section on Materia Medica, &c.

Supplemental Report upon Therapeutics,

By W. C. VAN BIBBER, M. D., Baltimore.

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Supplemental Report upon Therapeutics,

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In explanation of the paper he was about to read, Dr. Van Bibber said, it was not intended as a report from the Committee upon Therapeutics, of which he was a member, but might be considered as an individual report, made by him at the solicitation of Prof. Samuel C. Chew, the chairman of the committee. The paper would call attention to three distinct subjects, viz. the effects of pressure properly applied, and misapplied, and thirdly, to the use of the "choleïnate of soda" as a medicine.

In order to explain the effects to be derived from pressure as a therapeutic agent he would relate a few obscure cases which had occurred in his own practice, together with some suggestive remarks concerning them. The remedial means thus used, and about to be reported, were not those generally employed, he believed, in the ordinary practice of medicine. After hearing them, the Faculty might judge for themselves of their value. The most that could be said in order to commend them to some consideration was, that the patients were all evidently benefitted by the treatment employed, and most of them are now cured. He would endeavor to describe the obscure diseased conditions under which the patients suffered, and also the means by which they were benefitted, in such a manner as to be clearly understood. To do this, it will be necessary to be somewhat minute in the description as to

to the whole abdomen by means of a flannel roller. Afterwards pressure was used over the tumor by moulding over it a wet sole-leather compress, which was tightened by a strap. This support and pressure have been so adjusted as to be made comfortable, and have been worn day and night for five months. A warm hip-bath is taken at night and a cold one in the morning. A general tonic treatment has been employed in connection with the pad, and the diet has been regulated to suit the case. None of the remedies usually given for chronic dysentery have been used. The patient is now quite well.

Case 4.—January 3d, 1877. Mr. Samuel D——, aged thirty-six years, consulted me concerning abdominal enlargements situated principally in the left lumbar region. Superficially there appeared to be three distinct tumors; but when two of them were grasped, one in each hand, and an attempt was made to isolate them, a feeling of deep internal attachment was perceptible. One of the tumors extended high into the left hypochondriac region. The several physicians who had attended Mr. D. during the last six months had regarded the case as one of enlargement of the spleen. The feeling, and the position of one of the tumors, certainly favored this diagnosis. Yet there was the usual doubt concerning the nature of the case, and the tumors were so large it was impossible to do more than conjecture whether the spleen was involved in the indurated mass or not. The diagnosis of cancer of the omentum in one of its forms seemed probable, because the patient had the appearance peculiar to malignant disease. The pain in the region of the tumors was acute, lancinating and frequent. He had diarrhœa, emaciation, jaundice, anorexia, and a sublingual temperature of 103° F. The prognosis was not favorable. The treatment was commenced with the same mechanical contrivance for producing pressure as has been mentioned in cases 2 and 3. The sole-leather pad in this case was larger than in the others, and the padding between it and the skin was thicker, and permitted the use of topical applications. The pressure was continued night and day, and iodine in various ways was the principal local application. Besides this he took internally, in large doses, quiniae sulph., ferri-ferro-cyanuretum, and choleinate of soda. Medicated warm baths, temperature of 98° F., were also used. This treatment has been continued three months. There is now a remnant of the largest tumor remaining. It is about the size of the fist. The patient feels well and desires to return to his usual occupation. I can make no additional remarks upon this case which might elucidate its pathology. It is not difficult to conjecture the real nature of the tumors, but the practical point of interest is the gratifying result obtained, which, I think, was mainly due to the properly adjusted support, and long-continued, even and gentle pressure.

Case 5.—11th January, 1877. Mr. R. L——n, aged sixty-two years, consulted me concerning a diarrhœa which had troubled

him for three months, and from the effects of which he was much weakened. His health had previously been robust, and he had made no great change in his habits or diet. During the three months mentioned he had been perplexed and worried by business troubles. There was no visceral disturbance during the day, when he was dressed and occupied in attending to business. The peristaltic motion was most active during sleep, and he was awakened by colicky pains, either in the night, or more frequently early in the morning, when three, four, or five loose, watery evacuations would occur, accompanied with flatus and a sense of prostration. This form of diarrhœa is not uncommon, especially amongst active business men, and has for its cause some emotional trouble. I have treated many cases similar to this, and have not found the results obtained from remedies given by the mouth either uniform or satisfactory. Mr. L. had been treated with change of air and scene, astringents, alteratives, tonics, opiates, and other nervines, without obtaining permanent relief. I advised the use of warmth and pressure over the abdomen at night, by means of a flannel compress and a strap. This gave a feeling of comfort soon after it was applied, and within a week had effectually checked the hyper-activity of the intestines during sleep. No remedies were given internally.

The simple therapeutic means thus described is agreeable to most persons when it is indicated by a feeling of emptiness or sinking at the precordia, and may be found useful in the treatment of simple diarrhœa occurring either in adults or children. I have known a case of persistent diarrhœa occurring in the person of a delicate girl, which was pronounced hopeless by the attending physicians, to be cured by grasping the bowels by a strong hand and holding them steadily for forty-eight hours. Many other cases of various kinds could be given to illustrate the beneficial results to be obtained from this principle, but time will not permit. By means of a plain strap, or strip of bandage, with or without a compress or pad, the line of pressure, as well as the degree of pressure, can be altered at will. The line of pressure and the amount which is agreeable differs in almost every case, and even at different hours during the day in the same person. This may be owing to the yielding nature of the abdominal walls, to the sensitiveness of the nerves, and to the constant change in place of the contents of the intestines.

If properly applied, pressure, and well-adapted somatic support, are therapeutic means of value. It is quite certain, when these are improperly applied, their effects must be injurious to the organism. Dr. James B. Reed, of Savannah, told me he had permanently cured a most aggravated case of headache by advising the use of suspenders in the case of a man who wore the pantaloon strap too tightly buckled around the waist. The late Dr. Warren Stone, of New Orleans, told me his treatment for displacements of the pelvic organs in the female, in that warm climate, was never effective without a change in the mode of dress, and at the same time giving support to the intestines at a point lower than the waist. His expression was, "Support the pendulous abdomen rather than load it down, and the pelvic organs will take care of themselves." The fact of a heavy weight dragging upon living distensible parts must necessarily cause displacements and consequent disease. To remedy this, a change of the line of pressure would suggest itself as a principal therapeutic means. The curve of the corset, which has been in use for many years by females, gives pressure at such points and at such an angle that either the lungs are compressed, or the intestines are pushed into the lower part of the abdomen, and the pelvis is crowded beyond its capacity to permit a proper circulation of blood. The "comfort" corset, which is now gaining favor, obviates this to a certain extent, but not so effectually as the chemiloon, which has recently been introduced as a female article of dress. It can hardly be hoped that the report of this committee will have the effect of entirely altering the applied skill of the shoemaker, as well as that of the tailor, milliner, mantuamaker, and thus suspend for a time the profits of the coffinmaker; but yet by reading the transactions of this society for a number of years past it will be seen that we, as guardians of the public health, have not lately given attention to these matters. It might be inferred from this that we acquiesced in their use, whereas, I believe, we have only tacitly yielded to ideas, tastes and customs which we believed were entirely beyond our power to

remedy or control. It is surely not beneath the dignity of therapeutics to call our attention, or even public attention, to disease-producing fashions of this kind. I have seen nausea, vomiting and dyspepsia in both sexes from wearing tight shoes. I have read and heard of dislocations of the ankle-joint, I have seen distortions of gait, displacements of the pelvic organs, and a complete wreck of health result from small, high, and badly made heels to the shoes of females. And as a member of the committee on therapeutics, with the consent of our honored president of the same, I have thought it not improper, and it might not prove unprofitable to call your attention to these fashions at this time. If our report or recommendation could change them, and in their stead introduce garments for general use to suit the anatomy of the person, more in accord with the physiological uses of organs, adapted to their preservation, not to their distortion, we would certainly do much in this way for the prevention of disease, and more for its relief and cure than can be accomplished by a full array of instruments which their use compels us to employ in practice.

The Choleate of Soda as a Medicine.

In presenting this part of my report upon therapeutics, it may be readily understood why it is offered with much diffidence to-day, since yesterday we were so ably informed that but few physicians can be trusted as experimental therapeutists. I, for one, most cordially endorse the doctrine laid down upon this subject by our accomplished orator of yesterday, and do not hesitate to claim from you now, in advance, for the following part of this report, a most lenient criticism. The cases which will be related in this paper occurred in my own practice, and are offered with a view of showing that the choleate of soda may act as a substitute for the bile when this secretion does not enter the duodenum. It is surely of much importance to find a medicine which can do this, for cases of

chronic jaundice are numerous, especially in malarial districts. I have seen many cases of this disease, and had the honor of reporting several of them to this Faculty on a previous occasion. To one of these I will refer again to-day. The name itself shows at once, that life may be prolonged during a condition of jaundice; but as a rule, during this condition, the tenure of life is uncertain; and its usefulness, its value, and its enjoyments, are greatly diminished by dyspeptic pains, frequent attacks of colic, debility, ugliness, and depression of spirits.

An article by Wm. C. Dabney, M. D., of Charlottesville, Va., in the *American Journal of the Medical Sciences*, April 1876, p. 410, called attention to the action of the choleate of soda in preventing the formation of biliary calculi. In this paper, besides giving some valuable clinical observations made by himself, Dr. Dabney referred to a paper by Prof. Schiff, which appeared in the *Gazette Hebdomadaire* in 1874, on the same subject. At present I can only give the reference to this interesting paper, wherein may be found some theoretical views concerning the medical action of the choleate of soda, both by Dr. Dabney and Prof. Schiff.

In order to report with precision what observations I have made on the medical use of this substance, it will be necessary to briefly relate the outlines of five cases, which are selected from eight in all of the same disease, to whom I have given the medicine and carefully observed the results obtained. The choleate of soda that I have used is from the laboratory of "E. Merck, Darmstadt," and is labeled "soda choleïnate." It is not in general use, and when I wished to prescribe it, none of the apothecaries in this city had it in stock. I wrote to Dr. Dabney, asking where it could be procured, and he kindly sent me a portion of what he had at the time.

Case 1.—January 7th, 1877. Mrs. L. H., aged forty-six years, had resided many years in a malarial situation, but never had a distinct attack of remittent or intermittent fever. Her complexion was naturally clear, but for two years had been of a dingy yellow color. During this time her appetite was poor, digestion painful, the liver enlarged, and tender upon pressure over its surface; the evacuations from the bowels were white; the urine contained bile, and the skin and mucous membranes were jaundiced, although the

intensity of color was variable. The choleate of soda was given in "cachets," two hours after eating: three times daily, in doses of seven and one-half grains, for three months. She began to improve soon after this remedy was begun, and is now quite well. The complexion is clear, and there is no enlargement of the liver, or tenderness of pressure over its surface.

Case 2.—Feb. 5th, 1876. Mrs. W——e had an attack of acute jaundice after several days' illness from colic. These attacks of colic had been frequent for more than a year, and her physicians had diagnosed "cancer of the stomach." The jaundice continued increasing in intensity of color until the eyes and skin were of a yellow deeper than the fashionable shade of the day, and were really somewhat frightful to behold; the alvine evacuations were white, the urine contained bile in large amount, the liver was enlarged and excessively tender over its surface. This was her condition when she commenced taking the choleate of soda on 6th of June, 1876, in the same way as to time and dose as in case No. 1. It was continued six months. She is now quite well.

Case 3.—Jan. 13th, 1877. Mr. D. is the same person whose case was given above as No. 3, to show the effects of pressure upon abdominal tumors. It was mentioned in his case that he had chronic jaundice. The choleate of soda was given in the same way as in the other two cases. The result of his case has been mentioned.

Case 4.—Mrs. W., aged fifty-nine, whose case I reported to this society last year. She had jaundice since April 1872. At the time of my first report she was then taking the choleate of soda in the way and doses above mentioned. This has been continued during the year, not constantly, but frequently, for the relief of certain symptoms. She has not had a severe attack of colic for a year, and enjoys good health. The color of the skin has become much lighter.

Case 5.—December 10th, 1876. Mrs. A. P. had chronic jaundice, which had existed for a year. There was also anasarca of the legs and ascites. The remedy was given in the usual way, with good effect, but during the severely cold weather in January she contracted a pericarditis which resulted fatally. No autopsy was made.

I have purposely omitted all the symptoms presented by the cases which have been so briefly reported, excepting those which were evidently connected with lesions of the liver. The choleate of soda improved the digestion, and my theory was that it acted as a substitute for the bile. In none of the cases did an attack of colic occur during its administration. The remedies most relied on for the cure of jaundice are qui-

nine, nitro-muriatic acid, hydrastis, phosphate of soda, stillingia, mineral waters, &c. That the choleate of soda has more in theory to recommend it for trial there can be no doubt. I have endeavored to show its effects in practice, in some of the cases in which I have used it. It may not be uninteresting in this connection to review the action which the bile plays in digestion. For the following brief summary upon this point I am indebted to Dr. Claude Van Bibber:

"In the chemistry of digestion the metamorphosis of tissue is so rapid and frequent, the many combinations which can be traced offer such ample opportunities for varied explanations and theories, that a constant field of research is open, and each new observation of clinical fact or scientific deduction has its importance. Among all the secretions which act upon the food during digestion, physiology and chemistry have, perhaps, taught us least concerning the part taken by the bile. That its action is important, and, indeed, essential to life itself, is shown by the fact that it is poured into the intestine at the point where the real process of digestion and absorption begins; and that when it is prevented from entering the intestine by a closure of the ductus communis choledochus, or by the establishment of a permanent fistula of this duct, the animal dies with symptoms which can be attributed to no other cause than the absence of the bile.

"It is now generally admitted that the bile has no well marked influence upon any of the different classes of alimentary principles. The experiments of Schwann, Bidder and Schmidt, Bernard, Flint, and others, show that the bile assists, at least, in causing the absorption of fats; for in cases of biliary fistulæ in dogs, the animal no longer absorbs fat, refuses to eat it (Flint), and dies apparently of inanition, even though the amount of food be largely increased.

"According to Schiff, the contact of the bile with the intestinal coats causes contractions of the muscular fibres, and more particularly of the fibres situated in the villi of the intestine, thus assisting the absorption of chyle by emptying the lacteals of the villi. The results of experiments on this subject, on account of the difficulties of investigation, are very

unsatisfactory; but despite the obscurity in which it is involved, the whole train of symptoms preceding the death of an animal deprived of the presence of bile in the intestine, shows a very imperfect performance of digestion and assimilation. The various other theories in regard to the action of this secretion are too well known to need to be recounted here. They are nearly all obviously imperfect and without sufficient foundation.

"The fact that the bile rapidly dissolves all cellular elements, and the circumstance that the greatest activity of the epithelial desquamation of the intestine takes place at the time when the secretion of this fluid is greatest, has led Prof. Küss to conclude that 'the chief purpose served by the bile is the renewal of the epithelial coats of the intestine, by promoting the decay of the old elements (of epithelium), and the restoration of the new.' The absence of this secretion from the intestinal tract, according to Küss, does not impair digestion, properly so called, but only affects absorption, especially of fats; and it appears to be connected with the absorption of fatty substances 'by promoting the activity of the processes of renovation, desquamation, and vegetation of the epithelium.' This theory accords well with the fact that the greatest amount of bile is poured into the intestine between the third and eighth hour after the ingestion of food, or only when the process of digestion has been nearly completed.

"The composition of the bile may be said briefly to be salts, cholesterine, and coloring matters held in solution in water. Of these constituents the cholesterine and coloring matters have been conclusively shown to be excrementitious products which are eliminated through the liver. The salts of the bile, on the contrary, are a product of the liver itself. The analysis of these salts shows them to be a combination of soda with two fatty acids, choleic and cholic acids, forming the taurocholate and glycocholate of soda, or choleate and cholate of soda. The choleate is largely in excess of the cholate in human bile. Chemically they are almost precisely similar, and as far as is known there is no difference between them in their physiological relations. The most careful experiments and analyses have failed to find any trace of them in the blood of either the

arterial circulation or of the portal system. They do not appear in any form in the excreta, and must therefore be decomposed in the intestine and reabsorbed. Whatever, then, the part taken by the bile in promoting perfect digestion and assimilation may be, the choleate of soda must be the principle upon which it depends, whether its action be primary or secondary to that of the other secretions."

It is, therefore, in certain cases of dyspepsia, dependent on functional derangements of the liver, and in cases of chronic jaundice, when it is evident that a sufficient amount of bile is not poured into the duodenum, that the administration of this salt is indicated. Its use will, I think, be found as valuable as that of pepsin in some other forms of dyspepsia, and it is given on the same principle, viz. of supplying a substitute for a physiological secretion. This theory for its action, and for its use, is plausible and more simple than others that could be given.

It was not, however, with this view that choleate of soda was first recommended, but as a preventitive of the formation of gall-stones. Dr. Dabney has explained Prof. Schiff's theoretical views in his paper on this subject, but exactly how the medicine acts in this way is rather obscure. The choleate of soda is formed in the cells of the liver, and although it is supposed to be recrementitious, it is decomposed and entirely disappears in the intestine. As yet it has been found impossible to trace its elements in the blood; its action therefore can be in no way direct. But that the administration of the remedy does tend to prevent the formation of biliary calculi is a clinical fact, the importance of which cannot be overrated. Its action is said to be too slow to be useful as a solvent when calculi are already formed. But when we consider the usual conservative action of nature, and the efforts made to get rid of any body which interferes with a physiological process, we can understand that any remedy which will tend to prolong life greatly adds to the chances of recovery. This is accomplished by the choleate of soda, for it nearly takes the place of the bile, thereby making assimilation and nutrition more perfect, besides having, possibly, some effect in dissolving a concretion of cholesterine.