

FEEDING PER RECTUM:

AS ILLUSTRATED

IN THE CASE OF

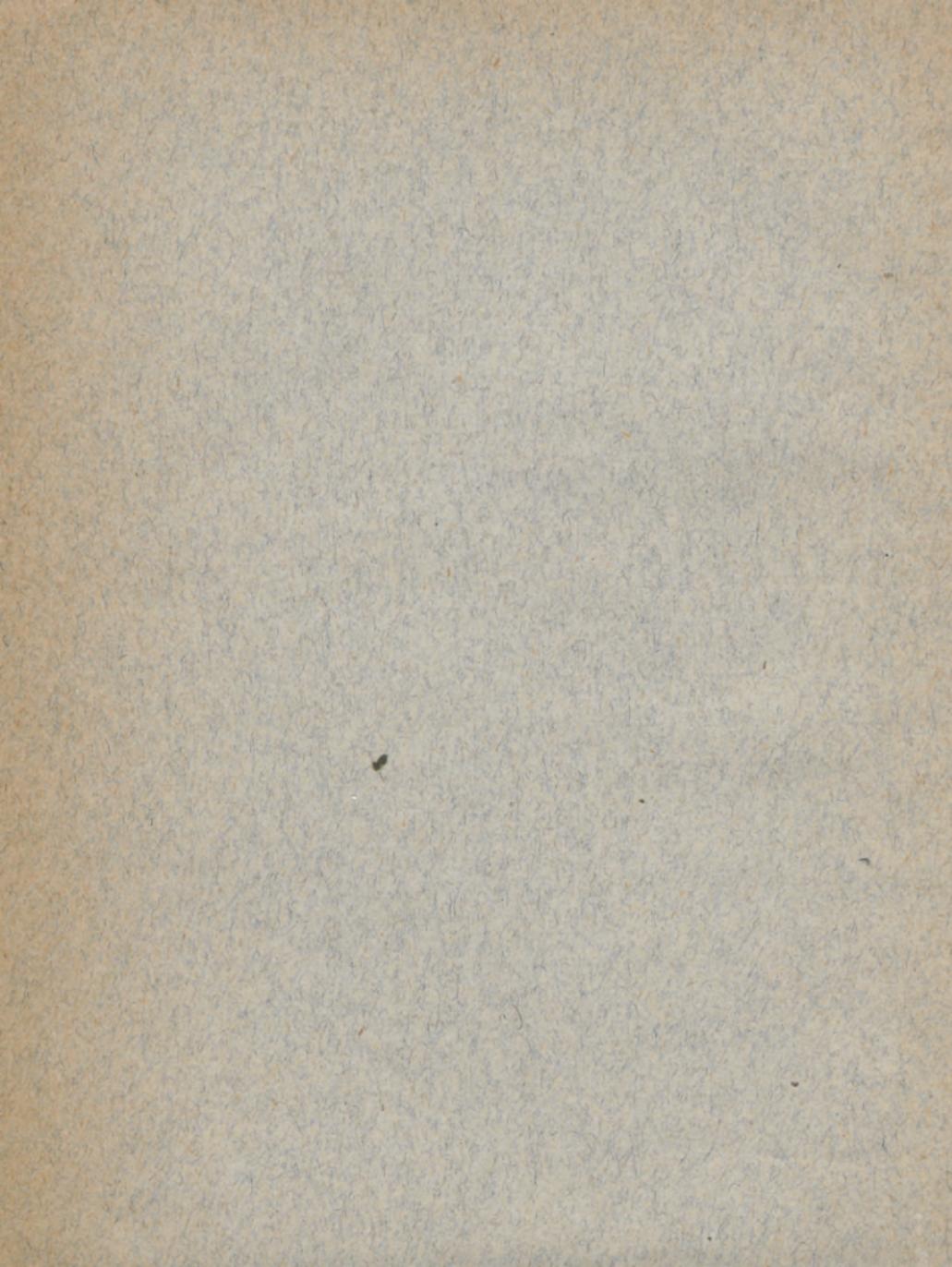
THE LATE PRESIDENT GARFIELD,

AND OTHERS.

BY

D. W. BLISS, M. D.,

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I prefer this expression to those commonly in use (as "rectal alimentation," etc.), not only because it is more terse, but also because it more exactly describes what occurs, as will be seen farther on.

It has long been my desire to lay before the profession both the results of my own experience and also that of others. The latter first caused me to explore, and afterwards test for myself, this artificial method of sustaining life. Extraordinary demands upon my time and strength have hitherto prevented any attempt to collate and arrange what is now known. The gravity and importance of the subject can scarcely be overestimated, while the history of its employment in both medicine and surgery is more interesting than any romance.

It will surprise many of the profession to learn that there is strong reason for the belief that, not only the history of enemata (*pur. et simp.*), but that of nutrient enemata as well, goes back to the ancient Egyptians, many hundred years before Christ (see Herodotus *Euterpe*, Cary's Transl., Am. Ed., p. 125, N. Y., 1855), from which it appears that they had a custom of using emetics and clysters three days in each month to preserve health ("Med. and Surg. Hist. of the War," part ii., p. 825). The Greek physicians also made great use of clysters in the treatment of fluxes, particularly the "coeliac flux," preferring this method to medication by the mouth. They used wine, whey, milk, ptisan, broth of spelt, and the like. Sometimes they aimed to sheathe the walls of the intestinal canal, and thus protect them against acrid humors descending from above, by injecting oleaginous or gummy substances ("Med. and Surg. Hist. of

the War"). In many instances these rectal applications not only were, but were intended to be, practically nutrient, in addition to their original use as aperients. If disciples of Hippocrates used the assimilable elements just alluded to, we must admit that rectal feeding has been a plant of very slow growth. Still, its study certainly exhibits one of the most interesting examples of the progress of thought and observation in the art of medicine.

In the narrow limits of this article it is manifestly impossible to give many excerpts from the authorities referred to. A full account of the materials used, of the mechanical means employed in administration, with reports of cases, would fill a large volume. It is therefore necessary to content ourselves with but a meagre outline, appending such references as are both interesting and important.

Probably the earliest form of syringe was that used by the Egyptians, consisting of a pipe with a bladder tied upon one end. The form recommended in the Hippocratic treatise ("De his quæ Uterum non Gerunt," edition Littré, viii., p. 431) differed from this only in having a number of little orifices in the sides of the pipe. From these primitive means resulted our present system, by which a continuous stream may be thrown to almost any point in the large intestine. All are acquainted with the so-called "fountain" syringe,* by which a continual drench of the lower bowel may be prolonged at pleasure. Longer pipes than those commonly used have proved valuable in many cases. In one instance (that of a distinguished Senator, now dead), I was obliged to frequently introduce the tube of the stomach pump very nearly the whole length of the transverse colon. There is small difficulty in this operation, save that a little awkward delay may occur at the sigmoid flexure. It is hard to imagine that any further improvement in our present instruments will ever be made or needed.

As to *materials employed*, while almost every article of food, the form of which admitted of injection, has been used—*e.g.*, milk, eggs, beef-broth, etc.—it is probable that the use of finely divided beef with pancreas has been known since the days of Hippocrates. Dr. Brown-Séquard (London *Lancet*, January 26, 1878) says, referring to an article by Dr. Kaufmann (*Deutsche Zeitsch. für prakt. Med.*, No. 44, 1877): "It is essential that the pancreatic gland which is to be used, be from an animal quite recently killed, as the tissues and juice of that gland lose their property very quickly if the temperature of the surrounding air is at all high. It is well to take away the fat and cellular (connective ?)

* See Mem. Med. Society Journ., description by J. Bureau, 1794, vol. ii., p. 234.

tissue, and inject only the meat and glandular tissue, very finely divided and thoroughly mixed." This statement, coming from a most eminent neurologist and pathologist, is interesting, first, because the venerable doctor has followed in his published statements one of the first accepted methods of alimentation *per rectum*; and second because he evidently believes that pancreatic juice possesses a digestive power only practically demonstrated by modern physiologists. Dr. Kaufmann, in the above citation, calls attention to the "excellent results obtained by feeding patients with pancreas and meat *per anum* in cases of persistent and incurable intestinal obstruction." He states that he had nine patients in the Kölner Bürger Hospital, seven of whom were suffering from cancer of the oesophagus, one from cancer of the pylorus, and one from chronic gastric ulcer. In all these cases a cleansing injection was administered in the morning, followed by finely divided beef and pancreas (1 lb. beef to $\frac{1}{3}$ lb. pancreas), the whole being freed so far as possible from fat and connective tissue. One-half this quantity was used at noon, and the other at 6 P. M. Results excellent. Solid, well-formed fæces were discharged each day. Patients were able to walk about, and lived in this way an average of nine months, or more.

The list of authorities subjoined contains direct or indirect reference to more than four hundred cases. The treatment, so far as materials used is concerned, is substantially the same. In by far the largest number enemata of eggs, milk, and beef broth, with and without stimulants, were given. Defibrinated blood was also used in some instances, but there seems to have been a general experience of difficulty arising from the strong tendency of blood to decompose in the rectum. My friend, Dr. A. H. Smith, reports eleven cases in which the blood alone was used, and in which assimilation failed in only one case. In that case the odor emanating from the patient became so offensive as to pervade the whole house, and to require a suspension of its use.

I am unable to fix the exact date of the first use of defibrinated blood. Reports upon this form of injection are found in "Proceedings of the Therapeutical Society, New York, 1878," xxviii., p. 84, and in *New York Medical Journal*, 1879, xxix., p. 404. The second report says, "the material for this paper is extremely meagre, consisting only of two experiments by myself and six cases—three by myself, two by Dr. Douglass, and one by Dr. Hadden." The report in "Proceedings of the Therapeutical Society" mentions sixty-three cases successfully treated with blood. It is impossible to specially describe these interesting cases in this article. We therefore note that in dysphagia, septicæmia from wounds, cancer of the pylorus, and in cases of malnutrition by the stomach from various causes, blood was found very useful, unless undue irritability of

the rectum prevented the retention of the enemata. Dr. Andrew H. Smith, in the *Archives of Medicine*, vol. i., 1879, recounts eighty cases, of which there were only two or three where rectal irritation was sufficiently great to cause a return of the injections of blood. The conclusions of this distinguished physician I brief as follows: That defibrinated blood is admirably adapted for use in rectal alimentation. Doses of two to six ounces given once or twice daily produce more or less constipation, which in a small number of cases becomes persistent. In a very small number of cases irritability of the bowels attends its protracted use, but was unaccompanied by dangerous or even serious symptoms.

There is no doubt that the use of this material, properly prepared, was a step in the right direction; but more remained to be done. An interesting article in the *Journ. de Thérap.*, Paris, 1880, vii., p. 846, describes some observations on the use of dried beef's blood ("Le Sanguis bovinus exsiccatus et l'hémoglobine"). These, with other reported cases, prove that cooking by chemical or other means is necessary to the best success. Yet it is curious that, as late as 1878, one of our most eminent authorities declares, that "whatever may be the explanation, clinical observation fully establishes the fact that the digestion of animal broths, milk, and eggs, takes place in the rectum, without the addition of pepsin and hydrochloric acid."

It is interesting to note the great variety of nutrient and stimulating enemata recommended at different times. Hot injections, cold (P. Dagaud: "Action physiologique, et usages Thérapeutiques des lavements froides," Paris, 1879), of medium temperature, and of almost every conceivable composition, from red wine to elaborate mixtures of bouillon, eggs, milk, and stimulants are in the list. Even enemata of tobacco smoke are mentioned in 1756 (G. A. Languth: "Candid. Joan Ludou, etc. Henne Wittembergæ"). The earliest treatise on pancreatic enemata with which I am acquainted is in 1671 (in "Tractatus Anat. med. de succi pancreatici matura et usu," p. 216, Batav.).

Nutrient suppositories are described in the *St. Louis Surg. and Med. Journ.*, April, 1882, p. 419, referring to the *British Med. Journ.* of February 19, 1881: "Artificially digested meat is mixed with a little wax and starch and made into a suppository. They are of such a size that the digested and extracted product of twenty ounces of meat, from which the insoluble matter is removed, is contained in about five suppositories. The convenience of this method is very great. It is easy for most patients to introduce them themselves, and their use is attended with no discomfort whatever, in the majority of cases. After an hour or two the waxy basis is frequently returned, the peptone and extractive being

absorbed. In some cases, owing to irritability of the rectum, the whole suppository has been returned; but this can be obviated by the addition of a little opium to each suppository."

In the case of the late President Garfield we were enabled, through the kindness of Dr. Smith, to use specially prepared blood. It was found, however, that the same trouble arose as in the last case cited under this head, and we were forced to discontinue it. Whether this result was due to the general debility of the patient or to the unstable nature of the substance used, I cannot say, but it is probable that both causes contributed. It is certain that all difficulty vanished when we resumed the use of Beef Peptonoids.

The question is often asked, "How long can life be supported by rectal feeding?" Experience teaches that, except in cases of malignant disease (always self-limited), there is practically no limit. Dr. Austin Flint reports one case, in which a woman subsisted for *five years* almost wholly in this way, and during a period of one year and three months her sole nourishment was thus obtained (*Am. Practitioner*, January, 1878). Many other cases might be cited, did space allow; they will be found in the references appended.

The possibility of sustaining life by enemata has been supposed to involve the presence of secretory or assimilant glands of the descending colon. Unless we admit that a *reversal of peristaltic action* is possible, by which nutrient enemata partially digested by artificial means, are carried into the smaller bowel, it will be found very difficult to account for the success which has followed this mode of nutrition. The permeability of the entire alimentary canal by enemata is an established fact (see "Med. & Surg. Hist. of the War," part ii., p. 836). Enemata have passed through the whole digestive tract, and been ejected by the mouth (*Quebec Med. Journ.*, 1827, ii., p. 201); also Dr. R. Baltry, *Virginia Med. Monthly*, Richmond, 1878, v., p. 531. Of course mere mechanical force could not secure this result. It is self-evident that while the injecta may have been carried as far as the cœcum by force alone, the only way in which it is possible to account for a fact so remarkable as the above, is upon the theory of a reversal of the incessant and automatic action of the muscular wall of the small and large intestines.

It is extremely improbable that assimilation takes place in the lower bowel, save as crystallizable principles may dialyze through the mucous membrane. There is ample authority establishing the fact that only a doubtful opinion is now held as to the existence of solitary glands in the rectum, in any number which is of practical importance. No physiologist would for a moment accept the theory that the down-dragging hemorrhoidal plexus of veins which embraces the rectum and descending colon can, by any stretch of imagination, be

erected into truly absorbent organs, much less organs capable of converting proximate principles into those emulsions which alone can be taken up by the lacteals of the small intestines.

In fine, the lower bowel is essentially an excretory magazine, and should be so regarded in dealing with this whole question. Assimilation of nutritive principles here is as improbable as the absorption of excrementitious matter is impossible.

In this connection I direct attention to the case of a distinguished gentleman whom I am now treating for persistent inability to digest any form of food in the stomach. Four hours after receiving an injection of broth composed of Beef Peptonoids, he declares that he distinctly recognizes the taste of the Peptonoids in the mouth.

The same truth is instanced in two cases of fistulous openings in the transverse colon. In one of them, reported by Voillemier ("Bulletin Soc. Anat.," Paris, 1842, xvii., p. 339), through an artificial anus above the sigmoid flexure, perfectly emulsionized injecta were obtained.

Dr. Thomas J. Gallagher, of Pittsburgh, says (*New York Medical Journal*, 1879): "It is now taught that the albuminous, caseous, and fatty elements of enemata cannot be absorbed by the large intestines *without previous digestion*, and that when these substances are introduced into the rectum unchanged, they are precipitated upon the walls of the bowel, where they undergo fermentation and cause flatulency and pain."

A curious case is reported by Dr. J. H. Beech (*Michigan Medical News*, March 10, 1878) as having occurred in 1859. Sympathetic irritability, due to encephaloid of fundus and body of the uterus, rendered retention of any kind of food impossible. The only injecta used were chicken-broth, coffee and cream, beef-tea, with occasionally milk and eggs. She remarked that coffee and cream relieved the sense of "*famishing thirst*" better than any other injection. As she could not swallow or retain liquids, this fact was of the first importance. It also serves to confirm the doctrine of reversal of peristaltic action.

I subjoin a few cases of my own which illustrate the general statements made:

CASE I.—J. D——, aged thirty-eight; cancer of the pylorus. Was unable to retain food of any kind. Great emaciation, thirst, hunger, and distressing insomnia. Ordered 6 ounces freshly made beef extract, with the addition of a teaspoonful of Beef Peptonoids, thrown into the rectum every four hours. At intervals of eight hours one-half ounce of whiskey was added, and at night twenty minims of McMunn's' elix. of opium, in case rest had not already been

Sleeplessness

obtained. It was not necessary after the second night. Under this treatment the more prominent symptoms—thirst, sense of hunger, vomiting, and insomnia—were mitigated in a remarkable degree. This patient was supported for more than three months in comparative comfort, dying then by extension of the local disease to other vital organs.

CASE II.—Mrs. H. R—, aged about forty. Gastric ulcer. Frequent vomiting, rejecting most of the food taken. The most bland food taken into the stomach produced obstinate nausea and vomiting. For some months previous to my first visit, had suffered from persistent constipation. Ordered injecta of freshly made beef extract with Peptonoids every four hours during the day, with occasional additions of stimulants as required. This treatment was continued for a period of three months, during which time she had taken only a small quantity of water per orem. For the past three weeks, as evidences of reparation of the local trouble were observable, peptonized milk and a tolerably liberal diet have been given per orem. Case interesting because reparative processes continued under no other treatment.

CASE III.—Mrs. J. D—, aged nineteen. Primipara. Persistent vomiting from pregnancy. Unable to retain either food or drink taken into the stomach. All the ordinary means used failed to relieve the reflex irritability of the stomach. Rapid emaciation, great general distress, and restlessness followed; symptoms so urgent as to threaten a fatal result. Abortion was apparently the only course to be pursued, until I happily thought that by using enemata of beef extract with Peptonoids I might be able to sustain life and strength until the critical period of pregnancy was passed. This was done, with occasional additions of stimulants and anodynes as indicated. Her strength was restored and distress relieved. After three months she became able to take beef extract with acid nitro-mur. dil. She is now in the fifth month of pregnancy, and in good general condition.

CASE IV.—W. H. H—, aged fifty-eight. Has been a generous liver, using wines at his meals, but in moderation. Has had for the past two years more or less frequent attacks of gastralgia, usually while the stomach was comparatively empty. Attacks characterized by severe pain and nausea. No evidence of organic disease of either liver or kidneys. First treatment was by aconite, soda, bicarb., magnesia sulph. and bitter tonics. Entire relief lasted for a period of several months. Recently, however, the same symptoms in an aggravated form recurred. Total inability to retain any food or liquid. Great local pain followed any attempt to swallow food, and a peculiar feature of the case was inability to retain pepsin in any form. Gave 6 to 8 ounces beef extract

with Peptonoids per rectum three times daily, which had the immediate effect of giving rest, ease, and subsidence of the nausea and vomiting. After four days he became able to resume stomachic digestion, beginning with a light diet of bouillon, and at present (about two weeks after the attack) is able to ride out and eat a beef steak each morning. I observed also that following the rectal administration of Beef Peptonoids his pulse became less frequent, and the relief of all the symptoms was prompt and complete.

CASE V.—Mrs. S—; age about twenty-eight; primipara; puerperal septicæmia, the sequel of unusually long and complicated labor, followed by acute cystitis with purulent discharge. Drs. Johnson Eliot and Robert Reyburn, of this city, were in consultation with me during the labor, the latter frequently visiting her with me subsequently, during the course of the septic fever. This case presented the more prominent and typical expressions of septicæmia, such as frequent rigors, generally more severe in the evening, great heat, extreme pungency of the skin, etc. The temperature ranged from 101.4° to 104°; pulse, 120° to 130°; distressing restlessness, and characteristic mental disturbance. The lochia continued normal until the septic condition developed on the eighth day. Pultaceous passages from the bowels generally twice in twenty-four hours, and occasionally attacks of diarrhœa, which readily yielded to ordinary remedies. Tongue red at tip and edges, dry, and covered with dark brown fur. Nausea and occasional vomiting. During the first five days of the fever the patient was unable to retain food. Only a little cracked ice was tolerated, even iced champagne being rejected. One table-spoonful of Beef Peptonoids dissolved in six ounces of moderately warm water, to which 4 drachms of whiskey and 5 grains of quinine, and occasionally 5 to 10 drops of deodorized tinct. opii were added. The quantity of the latter was increased at night to secure rest. These enemata were repeated every four to six hours for a period of four days, when the extreme irritability of the stomach had so far subsided as to enable it to retain the Peptonoids and light milk-punches. These were alternated every third hour.

The above outline records the entire nourishment given this patient for eighteen days. The only medication other than that mentioned, was $\frac{1}{4}$ gr. calcium sulphide every four hours, and occasional doses of carbolic acid and lime-water, with the view of sustaining the general antiseptic treatment, which included washing out the bladder twice daily with a solution of biborate of soda.

In a long experience I have never seen a case of this kind as serious as this, in which the patient was so well sustained and repair so wonderfully prompt. In my judgment this was entirely due to the temporary relief of the stomach

by injecta of Peptonoids, and subsequently, as the stomach regained tone, repairing waste by a constant supply of these most assimilable nutrients. The patient is now (thirty-three days after delivery) safely convalescent.

CASE VI.—The late President Garfield was some of the time entirely, and all of the time very largely, sustained by rectal feeding from the 14th of August until his death on September 19th, 1881. The value of this method of supplying waste in grave disease has never been more strikingly shown than in this instance, because in all probability there never was a patient more closely observed by his medical attendants, and because the quantity and quality of the rectal diet were most carefully regulated, both as to mode and time of administration. During the progressive stage of inflammation of the parotid gland (eight days) this mode of sustenance was entirely relied upon, he being unable to take any food by the mouth and stomach, and only very small quantities of cracked ice and water, which were frequently rejected.

The quantities, carefully measured, were prepared at the dispensary of the Surgeon-General of the U. S. A., by assistant apothecary W. F. Crusor, U. S. A., in accordance with the following formula. After the removal to Elberon, Mrs. Garfield herself prepared it.

WAR DEPARTMENT, SURGEON-GENERAL'S OFFICE,

Washington, July 26, 1873.

Circular Orders, No. 6.

The accompanying formula for the preparation of beef extract will be substituted for receipts Nos. 9, and 14, on the "Diet Table for Hospitals," issued from this office February 7, 1873.

By order of the Surgeon-General.

C. H. CRANE,

Assistant Surgeon-General, U.S.A.

"BEEF EXTRACT.—*Directions.*—Infuse a third of a pound of fresh beef, finely minced, in 14 ounces of cold soft water, to which a few drops (4 or 5) of muriatic acid and a little salt (from 10 to 18 grains) have been added. After digesting for an hour to an hour and a quarter, strain it through a sieve and wash the residue with 5 ounces of cold water, pressing it to remove all soluble matter. The mixed liquid will contain the whole of the soluble constituents of the meat (albumen, creatine, etc.), and it may be drunk cold or slightly warmed. The temperature should not be raised above 100° F., as at the temperature of 113° F., a considerable portion of the albumen, a very important constituent, will be coagulated."

Two ounces of beef extract, 2 drachms of Beef Peptonoids, and 5 drachms of whiskey were given with scrupulous regularity every four hours, day and

night. Occasionally 5 to 15 drops of deodorized tinct. opii were added as an additional nerve stimulant and anodyne, and also to secure retention of the enema. They were usually retained without causing any discomfort on the part of the patient, and, as a rule, once in twenty-four hours a discharge of healthy fæces occurred, generally of such consistence and form as would justify the belief that digestion had taken place in the small intestines. For the first five or six days the yolk of an egg was added to the injections, but in the judgment of the surgeons was the cause of annoying and offensive flatus. This symptom was promptly relieved by discontinuing the egg, and temporarily adding about a drachm of willow charcoal to the enema. Charcoal tablets by the mouth were also occasionally used.

There was a strong desire on the part of the physicians to discontinue the use of the stimulants, but on each occasion when the attempt was made the pulse became more frequent and feeble, so that we were forced to resume their use. Later in the history of the case, after the removal to Elberon, alimentation both by the rectum and the mouth was found to be borne without evidence of peristaltic antagonism.

In my own experience this is rare, one method being usually found more successful when the other was entirely forbidden.

At this period, fresh, defibrinated blood (supplied by my friend Dr. Andrew H. Smith) was, for four days, substituted for the Beef Peptonoids previously used. It was found, however, that the volume of offensive gases developed, together with the character of the ejecta, rendered necessary a return to the beef extract and Beef Peptonoids.

Early in the history of the use of enemata in this case, a firm in New York—Messrs. Reed & Carnrick—sent me a formula for the manufacture of a preparation which they called Beef Peptonoids (being the Peptonoid preparation which I have referred to throughout this article), and describing minutely their mode of preparing them. This I at once submitted to the council of surgeons, by whom it was approved as affording the most reliable and effective means of supplying artificial nourishment with which we were acquainted. Our solicitude may be readily imagined when I refer to the evidences of inanition then so strongly marked in the case of our distinguished patient. The result of the use of these preparations was that the lower bowel at once became more tolerant of enemata. No offensive gases were generated, and the general condition of malaise was greatly relieved. The materials so kindly furnished us by this firm were at that time prepared in liquid form, and probably for this reason were liable to undergo decomposition at high temperatures. Therefore,

on each alternate day they were sent fresh, and packed in ice. Recently, however, I have been using this preparation of beef peptonoids, prepared in powdered form by Messrs. Reed & Carnrick, and supplied to me by these gentlemen, the value of which to the physician and surgeon can scarcely be overestimated, inasmuch as it is always instantly available, not dependent upon refrigeration for integrity of condition, and the results of its use are even more marked and immediate than those of any of the numerous preparations which I have heretofore employed.

W. Joseph Tyson, M.D., F.R.C.S., Folkestone, in *British Medical Journal*, March 25, 1882, says: "To show how little this method of feeding is valued, I quote from Wood's well known treatise on therapeutics (2d ed.): 'The solvent influence of the rectal juices is practically nothing, and formerly the attempt was made to supplement this complete lack of power by the use of soups. It is evident that very little nutriment can be introduced into the system by such a plan; consequently feeding by the rectum has hitherto been a forlorn hope.'" Dr. Tyson adds: "Here, I take it, the author is speaking of *unpeptonized* injections of food." He then recounts some of his own experience which is so coincident with that already described that I content myself with reference to this very interesting article.

Finally, I deem it a duty to my fellow-men, as well as to the profession, to urge the importance of a careful study of this whole subject. Valuable lives may often be saved, and health and comfort regained, by the means alluded to in the latter part of this article, while alleviation of distress is in a great many cases proved possible by the references given, as well as by my own experience. It is true that in many forms of malignant or senile disease we can only look for a limited prolongation of life, without return to health. Yet, even in these extreme cases, who shall deny that it is the stern duty of the physician to use every safe measure which shall secure even one more hour of existence?

The theory is simple, and is amply supported by indubitable reports. My only wonder is (after careful examination of the subject) that so many years have elapsed since ancient experiments without a more general adoption of a plan of nutrition at once safe, easy of administration, and always practically effective.

My thanks are due to Dr. W. C. Tilden for collaboration.

[Since this article was published in *The Medical Record*, July 15, 1882, I have received a pamphlet from Dr. William Warren Potter, of Buffalo, N. Y., on "Rectal Alimentation, and the indication of Abortion for the relief of the obstinate vomiting of pregnancy." Its perusal proves interesting and instructive. The results of the doctor's experience show that in these difficult,

and sometimes fatal cases, entire stomachal rest can generally be gained by using the rectum for the administration of both food and medicine. He says that, "by the careful and systematic employment of feeding and medication through the rectum, the necessity for the artificial induction of abortion for the relief of gravid nausea, may be reduced to a minimum." The nutritive enemata used by him appear to have been chiefly beef-essence, milk, and brandy. He minutely describes a case in which enemata of these materials were employed, but in which abortion was finally deemed necessary, and successfully performed. It occurs to me that the rectum might have escaped the obstinate irritation suffered, by the use of the Beef Peptonoids instead. I have not found the latter to cause any difficulty of the sort.

An interesting fact contained in the paper is that the theory of retro-stalsis, which is accepted as the true one by the present writer, was first announced by Dr. Henry F. Campbell, of Augusta, Ga. (*Gynæcological Trans.* Vol. III., p. 268), in 1878. I was unaware of the existence of this paper, which is replete with valuable information and sound reasoning.

I have also to record the use of Beef Peptonoids, per orem, in four cases of typical Typhoid Enteritis, with most satisfactory results. These cases were better sustained, and freer from intestinal distention and diarrhœa, than ordinarily occur in the graver forms of Typhoid Fever. I have added the Beef Peptonoids to ordinary beef tea, with the result of lessening gastric irritability, and securing tolerance of these stimulant nutrients.

In some cases the Beef Peptonoids are rendered more palatable by administering them in cold or iced water.

Dr. D. Hayes Agnew, of Philadelphia, one of the distinguished counsel in the case of the late President Garfield, writes me that in his opinion, "the life of the President was prolonged for several weeks by the nutrient enemata, prepared, and administered by your hands."

Dr. Robt. Reyburn, also of the same counsel, says: "I have read your article on Rectal Feeding with great interest. Its suggestions and statements are of the first importance, and I fully concur with your conclusions. The case of the late President was a remarkable instance of the prolongation of life by nutrient enemata. The effect produced was promptly beneficial, and evident to all his attendants."

Surgeon-General J. K. Barnes, U. S. A., writes as follows:

WASHINGTON, D. C., Aug. 29, 1882.

"DEAR DOCTOR: Referring to your article upon Rectal Feeding in *The Medical Record* of July 15, 1882, I most fully agree with you as to the importance of a more careful study of this subject.

It does not admit of a doubt that the life of the late President was prolonged for weeks by the adoption, and continued use of nutritious enemata."]

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