

To J. W. C. Okeal M.D.
from
W. W. Potter

ON

RECTAL ALIMENTATION

AND THE

INDUCTION OF ABORTION

FOR THE

RELIEF OF THE OBSTINATE VOMITING OF PREGNANCY.

BY

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NLAI

Dr. W. W. Potter leaves for Albany to-night, to attend the meeting of the State Medical Society, as delegate from the Genesee county Medical Society. He will also, at the special invitation of the president of the State Society, read a paper before that body. Subject: "Rectal Feeding in Disease."

ON RECTAL ALIMENTATION AND THE INDUCTION OF ABORTION FOR THE RELIEF OF THE OBSTINATE VOMITING OF PREGNANCY.

BY

WILLIAM WARREN POTTER, M.D.,

Batavia, N. Y.

THERE is, perhaps, no malady which puts to a severer test the resources of the obstetric practitioner than *extreme* cases of nausea and vomiting dependent, etiologically speaking, upon the gravid uterus. It is, therefore, fortunate that we only now and then meet with a case of that sort demanding the extremest expedient for its relief known to the obstetric art, viz., the artificial induction of abortion. Since but very few of these extreme cases can fall within the observation of any one physician, I shall assume that a detailed history of one, which lately came under my ministrations, will not be devoid of interest.

March 26th, 1879, was called seventeen miles to see Mrs. J. L. T., aged 23 years, and who had been married a little more than five months. I found her about ten weeks advanced in pregnancy, and also suffering from chronic bronchial catarrh. She was greatly emaciated; vomited all food, and even water was at once rejected, the nausea being persistent and constant. Pulse 80, and feeble; temperature 99° F. She also complained of neuralgic pains in the right chest wall. Examination, per vaginam, revealed a gravid uterus, and the speculum further disclosed chronic endo-cervicitis with granular erosion of the os and lower segment of the uterus, accompanied by the characteristic discharge incident to the pathological condition described.

Clearing away the thick, tenacious mucus clinging to the parts, I applied tincture of iodine to the os and cervical canal, after which a pledget of cotton wool, which held about one drachm of the following mixture, viz.:

Chloral hydratis.....	3 ij.
Acidi carbolicæ.....	gr. x.
Fl. ext. opii,	
Glycerinæ.....	āā ʒ ij. M.

was packed snugly around the os, and held in place by other dry cotton pledgets.

I advised that the stomach be entirely abandoned for the pur-

poses of nutrition, and that rectal alimentation be substituted; and further suggested the use of a creosote mixture per orem, to be used cautiously, and to be discontinued if it should not be well retained. It is proper to add that this was intended to be a consultation visit, but the physician who had already attended Mrs. T. for four or five weeks did not arrive until just as I was taking my leave, when I submitted my plans to him, and secured his cordial assent.

April 2d.—Saw Mrs. T. again to-day, one week after my first visit; found her suffering considerably from neuralgic pains in the right thoracic wall; stomach less irritable, though all food given per orem is still rejected, this having occasionally been tried, notwithstanding my injunctions to the contrary. I renewed the applications to the os and cervix uteri in the same manner as on the former occasion; gave one-sixth grain of morphia hypodermically for the relief of the thoracic pain; advised lime-water and milk in small doses, and continued the creosote mixture, as the patient fancied it had been of some benefit.

The emaciation had increased since my last visit, and anemia was now extreme. The nutritive enemata, consisting of beef essence, milk, brandy, and laudanum, had been tolerably well retained, and I therefore advised their continuance as a chief dependence for nutrition.

April 13th.—Was summoned by telegraph late at evening (Sunday), to visit Mrs. T.; arrived at ten o'clock P.M., and found Dr. Barross, of Attica, in consultation with Dr. Young, the attending physician. Her stomach was now rejecting everything; nausea and retching constant; emaciation and anemia progressing. She was sleepless; temperature 100° F.; pulse 110 and feeble, with the vitality greatly depressed. Her mother stated that the patient had had three convulsions during the day, which so alarmed the friends that they had associated Dr. Barross (who resided eleven miles nearer the patient than myself), with Dr. Young, pending my arrival.

I presented to these gentlemen the propriety of the artificial induction of abortion in the case; but they were both minded otherwise, fearing fatality as a result, and which now seemed inevitable, to them, under any plan. I, therefore, advised chloral hydrate and the potassium bromide (thirty grains of each) in emulsion with yolk of egg and milk per rectum, to be administered at once. This was done about eleven o'clock P.M., and it brought about a comfortable night's sleep.

April 14th.—Next morning our patient seemed in a more encouraging condition, her pulse was slightly stronger, and there had been neither nausea nor retching since midnight. Advised continuation of the chloral and the potassium salt per rectum, from two to four times a day; also beef essence, milk, and brandy in the same manner. Per orem, small quantities of iced lime-water and milk, if retained.

April 18th.—Was again summoned by telegraph; found patient suffering from repeated nausea and vomiting; greatly pro-

strated; pulse 115; temperature 100.05° F.; emaciation increasing, and bronchial symptoms more aggravated.

The rectum had now become so irritated that medication and alimentation by that method had to be suspended; therefore, I now determined that the induction of abortion should be no longer delayed, particularly as it seemed to offer the only chance of saving life, even though, apparently, never so slight a one. Accordingly, with the concurrence of the attending physician, I dilated the os with the finger, the patient being in the Sims position, and passed into the uterus a piece of carbolized catgut about twelve inches long, doubled upon itself, retaining it by pledgets of raw cotton, neatly and snugly packed around the os. I administered morphia hypodermically, and left the patient under the close surveillance of Dr. Young.

April 20th.—Visited the patient to-day by appointment. There had been no uterine pain; stomach symptoms less urgent, though annoying, and always returning when nourishment was taken per orem, except the lime-water and milk, which was borne in small doses. Introduced another carbolized catgut and tamponed in the same manner as before; rectal alimentation resumed, and morphia given hypodermically.

April 22d.—Visited the patient again by appointment at eleven o'clock A.M.; found her condition still unchanged; removed the cotton and catgut; os uteri soft and patulous, easily admitting the finger, but no uterine pain; a little backache, however. Renewed the catgut and cotton packing, instructing Dr. Young to watch her closely, and to be within easy call.

April 24th.—Visited the patient again by appointment, when I learned that at five o'clock P.M., on the 22d (the day of my last visit), a three and one-half months' fetus (it was saved for my inspection) had been thrown off, and that the placenta followed soon after, all without hemorrhage or anything worthy the name. All her symptoms now seemed better; she was cheerful, and took nourishment per orem, cautiously administered, brandy and cream, etc.; temperature 99.05° F.; pulse 88, and no nausea nor vomiting. Gave her iced champagne, which she enjoyed.

April 27th.—Saw Mrs. T. again by appointment; there had been no return of nausea; bronchial symptoms much improved; strength slowly increasing, and food is taken with relish.

Continued nourishment per orem, with champagne and Menzies's beef tonic.

May 4th, next saw Mrs. T.; her improvement continues; she is able to sit up a short time each day; treatment continued with the addition of chalybeates, and applied chromic acid to the os and cervix uteri.

May 20th.—Saw Mrs. T. again to-day; she is able to be about her room, and to come down-stairs with assistance; bronchial symptoms abating, and strength is returning. Renewed chromic acid to the os and cervical canal.

June 18th.—Mrs. T. came to Batavia and remained over night; renewed chromic acid application, and prescribed arsenic and iron,

Sept. 6th.—Mrs. T. again visited me, when I found the erosions nearly healed, the new tissue looking smooth and healthy.

She was at this time quite strong and well, and about to undertake housekeeping.

At the risk of being wearisome, I have been somewhat diffuse in the relation of this case, while at the same time I have abridged many of its details. It is proper, however, that I make further mention of one or two special features of the case.

I. Let it be noticed that there was inter-current catarrhal bronchitis, complicating the excessive nausea and vomiting of pregnancy, which in no small degree embarrassed its therapeutical management, since the remedies necessary to control the bronchial symptoms could not be retained by the stomach. The bronchial catarrh had, up to the time of my first visit, been the sole source of anxiety on the part of the friends of the patient, and thus far had entirely absorbed the offices of her physician. Neither had yet suspected pregnancy, believing that the suspension of the menstrual function was due to the general debility and anemia growing out of the bronchial disease. Now that the uterus was pronounced gravid, an additional and greater source of danger was discovered, and anxiety on all hands became extreme.

II. The second point of special interest to which I would refer, before dismissing the case altogether, is the extensive superficial ulceration of the lower segment of the uterus, attended, as it was, by the profuse egg-like discharge which is so often found present in similar conditions. I fancied that I had discovered in this the true source of all the difficulty, and that I had but to remove it, when the nausea and vomiting would depart. In her very feeble state, however, I found it exceedingly difficult to make the necessary local applications; and becoming convinced, also, that the ulceration was no longer tractable to the use of mere topical remedies, I determined to abandon them altogether; moreover, rectal alimentation and medication having failed to arrest the progress of the malady, the direful alternative of putting an end to the pregnancy was forced upon me.

I will now offer some remarks germane to the whole subject of excessive vomiting and inanition of pregnancy, the case reported having furnished an appropriate text therefor.

First, let us briefly examine the subject with reference to the etiology of this vomiting; and, be it understood that we are, speaking generally, dealing only with cases where this symptom of the gravid state is so severe and persistent as to threaten the life of the patient, since, in the main, the ordinary vomiting in pregnancy may be regarded as a useful and not an abnormal symptom.

A few obstetricians strongly advocate the theory that some displacement of the gravid uterus is, in almost every instance, a cause of the vomiting, and notably among their number we find the name of Dr. Grailly Hewitt; others refer the condition to granular inflammation of the os, cervix uteri, cervical canal, or os internum; others, again, believe that the symptom is due to the stretching of the uterine fibres; while still others regard it as a reflex phenomenon due to the gravid state, a condition which has been so happily termed by Dr. Geo. J. Engelmann, of St. Louis, as a hystero-neurosis of pregnancy. Let me quote his own words: "I will," remarks Dr. E., "merely recall the various gastric symptoms which occasionally accompany pregnancy . . . ; the uterus after conception, as previous to the menstrual flow, is in a more active sensitive condition; it is congested and enlarged, and the nausea, the vomiting, and epigastric distention occasionally found during pregnancy, may also be classed among the hystero-neuroses, as we know that in some cases these symptoms may be relieved by dilatation of the cervical canal, and always by the discharge of the ovum, whether at term or sooner, thus proving their dependence upon the uterine condition."¹

It is an undoubted fact, that a pre-existing gastric catarrh may become an etiological factor of great import in the excessive vomiting of pregnancy; and I have a notion that, if to an already irritable and eroded stomach the reflex phenomena of pregnancy be superadded, we will find this one of the most obstinate, uncontrollable, and dangerous forms of this perplexing malady. Fortunately, however, this condition of things, I believe, seldom happens; but more often, catarrhal gastritis is a *product* of the gravid nausea.

Prof. Samuel C. Busey, M.D., of Washington, D. C., in a

¹ Trans. Am. Gynecological Society, Vol. II., p. 518:

paper lately published¹ "On the Potassium Bromide and Suspension of the Action of the Stomach in the Uncontrollable Vomiting of Pregnancy," has interpolated some remarks upon the etiology of the disease, which are so germane to the proposition which I have just advanced, and, withal, so concisely stated, that I shall take the liberty of quoting them here. "The nausea and vomiting of pregnancy," says Dr. Busey, "are undoubtedly, in a vast majority of cases, reflex phenomena, but it is not improbable that occasional exceptions occur, and in a large proportion of, if in not all, the cases when these stomachic disturbances become serious, and for a time uncontrollable, catarrhal conditions of the gastric mucous membrane are superadded. The clinical history of cases of acute gastric catarrh, and of cases of protracted and uncontrollable vomiting of pregnancy, are very analogous. Anorexia or a vitiated appetite, nausea, vomiting, thirst, epigastric oppression or pain, a suburral condition of the tongue, eructations of a glairy mucus, and despondency, are common to both affections. In fact, there is not a symptom, except such as may relate to the reproductive organs, belonging to either which may not be present in the other. The most frequent cause of catarrh of the stomach is indigestion, due either to an indiscreet diet or to derangement of the digestive process. Impoverishment of the blood disqualifies the gastric fluids, and the inanition of pregnancy, so frequently the precursor of the more serious stomachic disturbances, may thus become a potential factor in their causation."

I have by no means exhausted the list of causes which have been enumerated by different writers upon this subject, but enough have been mentioned to illustrate the fact that, as they are various and variable, so, too, will the treatment recommended vary in method and application.

As we are dealing only with extreme cases where life is placed in great jeopardy from the prolonged and constant nausea and inanition of pregnancy, so, in the consideration of treatment, shall we, likewise, confine our remarks to the extreme measures requisite for its relief.

These will be discussed under three general heads, viz.:

I. Stomachal rest.

¹ Am. Jour. Med. Sciences, January, 1879, p. 112.

II. Rectal alimentation and medication;

III. The artificial induction of abortion.

I. The first indication of treatment, then, in these extreme cases, speaking generally, is absolute and complete rest for the stomach; not only must all food be positively inhibited, but so, also, must all drinks, in large or small quantities, be excluded per orem. So necessary to success is stomachal rest, I am convinced, after considerable observation, that there must be a positive prohibition of all alimentation by the stomach; and that, under no circumstances, must we allow the cravings of the patient or the entreaties of her friends to persuade us to relax this stern and, apparently, cruel mandate. To relieve thirst, dryness of the mouth, and the parched condition of the lips, small chips of ice may be allowed per orem, *but nothing else.*

"Cases occur," remarks Dr. Busey,¹ "in which the stomach will not tolerate anything, either liquid or solid. Occasionally, when some simple article of food is for a time retained, it simply accumulates, and is finally expelled undigested. Digestion seems to be suspended or so disturbed that stomachal alimentation is impossible."

This is, undoubtedly, the experience of every one who has had much to do with this malady. Why, then, should we torture the already disturbed, irritated, and rebellious stomach, by the introduction of even the blandest aliments? Better far to wait until rest and time have sufficiently repaired these disturbances to warrant the gradual resumption of stomachal alimentation, and to inspire the belief that the assimilative process may also be restored.

By the same inexorable rule that we prohibit the ingestion of food would we, also, deny the introduction of medicines per orem; for the self-same reasons which govern in the one case apply with equally cogent force in the other.

II. Of rectal alimentation and medication.

The same dire necessity which compels us to abandon the stomach for purposes of nutrition and medication, forces us to adopt the rectum for like uses; and fortunate it is that nature has so wisely provided such a valuable and efficient substitute,

¹ Op. cit., pp. 114, 115.

enabling us thereby to sustain life for even a lengthened period, should such a necessity arise.

It is a well-known fact that in many stomachic, esophageal and pharyngeal disorders, rectal alimentation has been employed with more or less success; oftentimes, indeed, it being the only method of sustaining nutrition for weeks, months, and even years. I shall not attempt to enter into a historical review, nor to discuss, in extenso, the rationale of the rectal method of alimentation, but shall simply submit a few remarks in regard to its applicability and usefulness in the nausea and inanition of pregnancy.

The most valuable recent contribution to the literature of this subject is a paper by Dr. Henry F. Campbell, of Augusta, Ga., submitted to the American Gynecological Society at its annual meeting in 1878,¹ from which many of the thoughts here suggested have been formulated.

If it is important, nay absolutely necessary, that the stomach shall have rest in "gravid nausea," it is equally important that nutritive elements shall be furnished, in some artificial manner, in sufficient quantities to maintain the vital standard to such a degree that there shall, at least, be no loss by the prohibition of stomachal alimentation. It has been demonstrated, over and over again, that this was possible, but just how the rectal food was prepared for, and finally introduced into, the blood, has been a matter of controversy, conjecture and doubt, until Dr. Campbell "cut the Gordian knot" by his ingenious and, to my mind, conclusive explanation of the *modus operandi*, by the method which he has so simply and aptly termed "intestinal inhausion."²

If the rectum or colon were alone depended upon to absorb or convey to the blood the nutritive enemata, very little or no good could come from their use, since both of those organs are devoid of the digestive juices, so necessary to the preparation of all aliments for their absorption into an admixture with the blood. It is highly probable, however, that when food is properly placed in the rectum there is a reversion of the ordinary and normal peristaltic action of the intestinal tube, which carries it upward until the small intestine is reached where those digestive juices are found which prepare the food

¹ Gynecological Trans., Vol. III., p. 268.

² Op. cit., p. 282.

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for chylous absorption, in the same manner as though the aliments came by way of the stomach, instead of the rectum. Nay, more, is it not likely that food which finally reaches the blood up through a healthy avenue is better fitted for the nutrition of the body, than when sent downwards through a stomach irritated and disturbed, with its secretions chemically at fault, and its functions rendered morbid by the hysteroneuroses of pregnancy?

Let us interrogate Dr. Campbell, in this connection, with reference to the manner in which rectal alimentation is made to serve the purposes of nutrition in these cases. "I have already," says Dr. C., "defined the method by which I account for the digestion, absorption, and assimilation of food when placed in the rectum. It is this, differing from all others with which I am acquainted, that digestion in either rectum or colon is not at all contemplated. Neither by direct absorption on the part of the walls or vessels of these cavities; nor by the means of artificial digestive principles added to the food after the manner of Leube; nor by the glands of the large intestine vicariously secreting the digestive fluids of the small intestine; nor, lastly, by the alimentary mass in the large intestine exciting the secretions of the stomach and small intestine, and then attracting, or in some way acquiring them, in order that rectal digestion may take place. My proposition is distinctly the reverse of this last and asserts that, instead of the digestive principles descending to the food to digest it, the food ascends to these fluids in the small intestine, and that it is there digested and prepared for absorption by the proper organs, in precisely the same manner as after buccal ingestion."

I am at this moment feeding four patients per rectum for various maladies (one being for gravid nausea and inanition), and I should be glad to introduce notes of these cases in this paper, but I forbear lest I wax wearisome with many details. It is sufficient to say that they all tolerate the method well and are improving under it. I have interrogated each patient carefully, after having instructed them to make particular observation as to retro-staltic action, and they all assert that they can "feel the food going upwards into the intestines" a little time after its introduction.

¹ Op. cit., p. 285.

How
Rectal
aliments
How

Case under
observation
of Dr. Campbell

From my small experience in rectal feeding, too small, perhaps, to be of value except as corroborative evidence, I am prepared to indorse Dr. Campbell's views as to the rationale of this method of supplying nutritive aliments, when from any reason, stomachal alimentation is harmful or impossible; and, moreover, I am persuaded that he makes just claim to the fact that intestinal inhaustion is an indispensable factor to all effectual rectal alimentation; and, further, that it is subservient to, and must invariably occur, when rectal nutrition is accomplished.¹

There can be no doubt that an extreme degree of exhaustion occasionally occurs from the excessive nausea and vomiting of pregnancy, the stomach being, in such cases, unable to retain sufficient food to meet the demands of the economy; hence the resultant inanition which might progress to extreme danger, except for the new aid invoked. Here it is that stomachal rest and rectal alimentation come to the rescue.

It cannot be denied that in the earlier months of utero-gestation, those reflex phenomena described by Dr. Engelmann as hysteroneuroses of pregnancy are peculiarly apt to establish a "habit or abiding tendency to retro-staltic action in the muscular tunic of the entire alimentary canal;" and this fact would seem to indicate the singular adaptability of such cases to rectal feeding. Seizing upon the already-established morbid retro-staltic movements going on in the intestinal tube, we make them subservient to the accomplishment and maintenance of nutrition, by placing proper aliments in the rectum, whence they are caught up and carried through the colon, past the ileocecal valve, and into the small intestines, where are found the necessary fluids for digestion and chylification, and where, also, are present the proper organs for absorption.

It is equally important that medicines shall be introduced per rectum when needed, as that food shall be so supplied; and the same laws which apply to nutrition by this method, apply with equal, or even greater, power to rectal medication, since it is a well-known principle that many medicines act with greater potency per rectum than per orem.

Dr. Nathan Bozeman, of New York, in a recent most valuable contribution to the literature of ovariectomy,² has

¹ Op. cit., p. 288.

² See N. Y. Med. Record, July and Aug., 1879.

demonstrated the superiority of both rectal medication and alimentation, even before as well as after the operation.

III. Of the artificial induction of abortion.

Dr. Campbell closes his paper, to which I have so often made reference, with some fifteen deductions, referring to rectal alimentation in pregnancy, to all of which I am prepared to assent except the last, viz.: "15th. That under the careful and systematic application of rectal alimentation, artificial abortion for the relief of gravid nausea can be banished from practice, *even as a last resort.*"¹

I approach this branch of my subject with the utmost diffidence, since I am aware that the extremest circumspection should be exercised in recommending the induction of abortion for this or any other cause, lest it be adopted too generally. I am very sure, however, that there are cases, now and then, in which the safety of the mother demands the sacrifice of the fetus. There cannot be the slightest doubt, not only in my own mind, but also in the minds of the other medical gentlemen who were associated with me, but that the patient, in the case reported, was saved from inevitable destruction by the induction of abortion.

It seems to me that, until some certain and specific method has been discovered which will assuredly estop the uncontrollable vomiting of pregnancy, it would be unwise to "banish from practice" the induction of abortion for its relief, even though it can only be justified as a measure of last resort.

Let me suppose a case of excessive and obstinate vomiting of pregnancy, sufficiently severe and persistent to threaten the life of the patient—a case, if you please, superadded to a previously existing gastric catarrh—in which the rebellious stomach will not retain even a teaspoonful of water; a case where, in spite of the use of oxalate of cerium, bromo-hydric acid, ingluvin, hypodermic injections of morphia, counter-irritation, dilatation of the os and cervix uteri, etc.—in short, where all the milder remedies so well known to us all have been tried and failed—the patient's life is still jeopardized. I present a case where the nausea and vomiting have failed to be controlled by any or all the usual and ordinary remedies; a case which has resisted the action of food and medicine, by the rectum, of

¹ The italics are mine.

whatsoever nature—where stomachal rest and rectal alimentation have proved utterly insufficient—a case where the symptoms are most urgent, and where we realize that, if the nausea and vomiting, with their consequent inanition and exhaustion, continue much longer, a fatal termination is inevitable.

The possibility of meeting with such a case cannot be questioned; nay, that many such have been confronted, where some or all of these expedients have been tried in vain, cannot be doubted. Such a case may be the result of previously existing disease, to which gravid nausea has been superadded: it may occur in a pale, weakly, anemic female, in whom pregnancy has set up an intercurrent malady; or it may result as a simple hysteroneurosis of pregnancy in a previously healthy woman. Whatsoever causes may have combined to produce this direful condition of things, so to speak, it is evident that something must be done, and that quickly, to arrest the progress of events which are surely carrying our patient downwards, or she will die. Shall we stand idly by, and hold off our hands while death comes in and claims the victory? Shall we not rather seize the only remaining chance which offers, and put an end to the pregnancy which is the source of all this mischief?

Dr. McClintock read a paper on this subject before the Obstetrical Society of Dublin, March 12th, 1873,¹ in which he gave the report of a case which was reduced to the very last degree of prostration and weakness when the abortion was provoked, insomuch that the preservation of her life seemed scarcely possible; nevertheless she made a good recovery and again became pregnant.

Dr. McC. also gives in his paper a table of thirty-six cases where abortion had been artificially produced to rescue the patients from the fatal effects of their persistent and excessive vomiting. In twenty-seven of these cases the nausea and vomiting was completely arrested and the patients perfectly recovered; in the remaining nine cases, while the vomiting was stopped, ultimate recovery did not take place. The result in these nine instances the author thinks due, in part, to the fact that the operation had been too long delayed; and in part to the fact that concurrent disease in some form had com-

¹ Irish Hospital Gazette, May 1st, 1873.

Food should only be given normally when
nature asks for it by the natural appetite
Conversely when there is Anorexia, food should
not be offered normally - but ^{should} ~~may~~ be given by
the Physician

plicated the cases so as to put recovery out of the question under any plan.

Dr. McClintock also cited fifty cases, from various authentic sources, where death had actually taken place in consequence of the persistence and uncontrollable severity of the pregnant sickness.

It now and then happens in these cases, that Nature herself comes to her own relief and turns out the offending uterine contents, thus clearly indicating the correctness of this line of practice in exceptional instances. This occurred, indeed, in the very case which Dr. Campbell makes the basis of the valuable paper to which I have frequently made reference in this rambling communication.

But time warns me that I must not dwell; therefore, I will conclude this paper by formulating some of the principles which it seeks to enforce:

I. That in extreme cases of gravid nausea the stomach often becomes so disturbed in its functions as to render the digestion of food harmful, nay, even impossible. Hence arises a degree of exhaustion and inanition which may result in death.

II. That stomachal rest which, oftentimes, must be absolute as far as a positive prohibition of all buccal ingestion can make it so, must be strictly enjoined; moreover, this may be, and often is, a condition precedent to therapeutical success in the management of cases where life is threatened.

III. That rectal feeding and medication become alike important factors in securing the necessary rest for the stomach, and indispensable ones in maintaining and improving the nutrition of the body.

The demands of pregnancy are such as to require even greater nourishment than the non-gravid state; whereas, in the condition under discussion, the excessive vomiting reduces the supply far below the ordinary requirements of the system in the non-pregnant condition, whereby result inanition, exhaustion, and even death itself.

IV. That the maintainance of nutrition by means of rectal feeding is accomplished by a "reversal of normal peristaltic action" in the intestinal tube—the "retrostalsis" or "intestinal inhausion" of Campbell; and further, that to Dr. Campbell belongs the credit of first bringing to the notice of the

16 POTTER: *Rectal Alimentation during Pregnancy.*

profession this newly-discovered function of the alimentary canal, whereby the true rationale of rectal alimentation seems fully explained.

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V. 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.

VI. And finally, that in cases which have resisted the employment of all milder expedients, and life still seems threatened, the induction of abortion for the relief of the excessive, obstinate, and uncontrollable vomiting of pregnancy, becomes an alternative measure justifiable, alike, by medicine and morals.

BATAVIA, N. Y., Nov. 15th, 1879.

x abandoned as a rule

Heels Cured by the Injection of Air, as re-
ported in the Provincial Med & Surg. Journal July 16th 41 P. 2.
A dropper had violent colic & vomited Stercoraceous matter
indicating Mechanical obstruction. Air was thrown up the
Anus & as soon as the intestines became well distended a
copious evacuation of solid matter took place & the
man gradually recovered. Bonthwaite's Report July 1841 - P. 37

